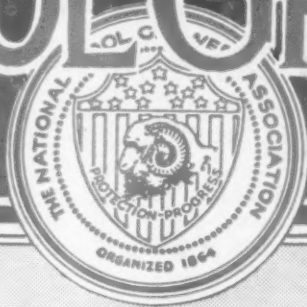


Am. Assoc.

The NATIONAL WOOL GROWER



Volume XXVII Number 3

MARCH, 1937

Sheep and Wool
Affairs at
Washington

+

Bighead in Sheep
Caused by
Plant Poisoning

+

Recent Methods in
Coyote Control

Denver . . .

truly a Western Market for Western Lambs

In purchasing *Two Million* head of sheep and lambs on the

D E N V E R M A R K E T

last year, or two-thirds of total receipts of fats, feeders, and through shipments, packer buyers clearly demonstrated that DENVER was the point they wished to buy them—and paid more-than-in-line prices to secure.

Fast train service in and out—most logical point of distribution to middle western and Atlantic Coast slaughter houses with a minimum of expense to both buyer and seller—coupled with the most modern and adequate sheep handling facilities, have made the DENVER MARKET grow.



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says E. V. WING,
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*With ranges in poor condition
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Nibs is a real life saver. Here
are reasons sheepmen like it:*

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Suresheep Nibs won't roll or scatter even on steep hillsides or in high wind. They are firm and solid, and so not likely to be trampled into snow or dirt. Although easily digested by sheep, they will not dissolve away in snow.

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Suresheep Nibs is a concentrated feed. It contains *oil meals* which provide the correct variety of proteins; *grains* for energy and to balance oil meals; *mill feeds* with necessary, slightly laxative properties; *Sperry minerals* for bone development and protection from diseases.

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Each "Nib" (see sketch at left) is designed so that the sheep can pick it up easily. Its rounded corners help prevent mouth injury. Packed in 100-pound sacks, Suresheep Nibs can easily be shifted long distances on the range. Even in snow, a man can feed sheep more quickly.

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All Suresheep Nibs contain exactly the same quantity and quality of nutrients. Sperry's exclusive Products Control process of chemical testing during mixing takes care of this. Thanks to Products Control each sheep gets just what it needs and in the right proportions.

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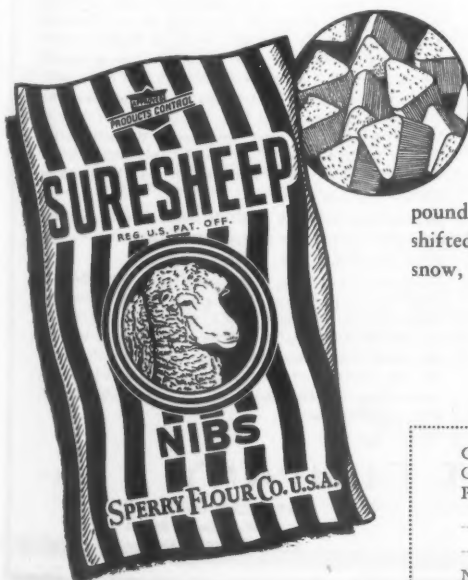
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**Tried and Proved Through
Five Seasons**

The Stewart 5-W Comb is not an experiment. Thousands have been in regular use during the past five seasons. Results show it to be 100% successful. Where storm and sun make necessary a longer stubble than regular combs leave, the Stewart 5-W is the comb you need.

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This protective comb is used exclusively in these plants. They include the largest in the West.

J. B. Long Company,	Frank Roberts,
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47 Years Making
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**The Easy Running
Thick Comb**

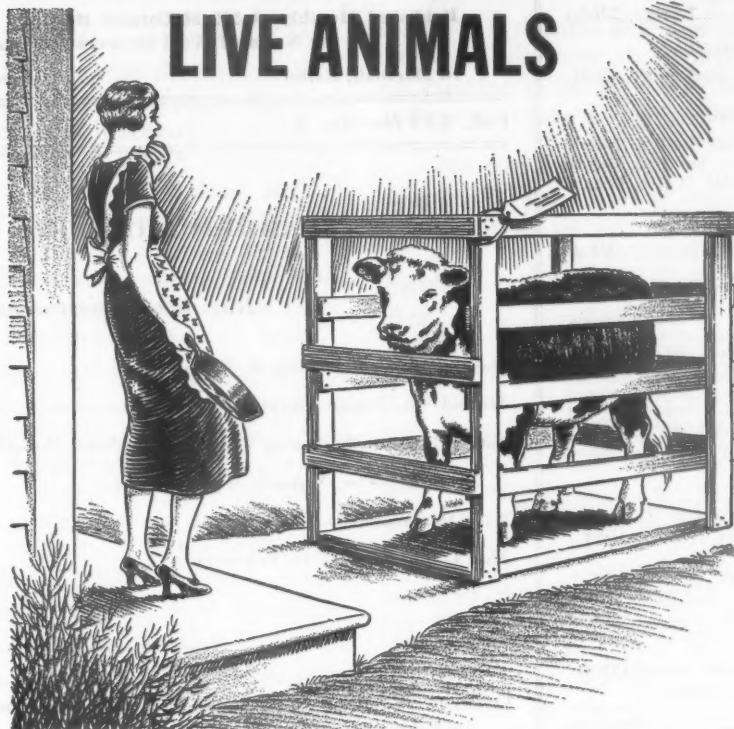
Here is the easiest running thick comb ever developed. Does not slow down the shearing to any considerable extent. Each alternate tooth is shaped exactly the same and is the same depth as on a regular Stewart comb. The two outside teeth and every other tooth between them are about three times as deep from top to bottom at the front end. Because of the extra depth of these runner-like projections, the cutting surface is raised above the skin and a longer stubble of wool or mohair is left on the sheep or goat.

The teeth of the 5-W are thin from side to side and skillfully pointed the way shearers like them so they enter the wool freely.

Shearers tell us that it is easy to tag with the 5-W comb and that because of the shape of the runner-like projections on the raised teeth, there is little tendency for wool yolk to gather on the lower side or between the teeth. The Stewart 5-W is the right solution of the old problem of how to keep all the advantages of machine shearing and still leave enough wool on for proper protection.

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[In daily touch with every meat, dairy and poultry
consuming city, town, and hamlet in the United States]

CITY consumers cannot eat live cattle, hogs, sheep, and calves. Livestock must be made into meat before it can be eaten by the consumer.

In order to change livestock into meat, many services must be performed. These cost money. The number of services required by consumers is far greater in the United States than in Europe. For example, in the United States, the hog is separated into dozens of different cuts. Bacon, hams, shoulders, and other cuts are wrapped attractively, some in transparent wrappers. The Danish hog is cut into two sides and is sent to England where it is known as "bacon." These, along with other similar economic factors, explain the reasons why the "spread" between what consumers pay and producers receive is wider in the United States than in Sweden, Denmark, Holland and other European countries.

In spite of the greater services demanded by American consumers, the efficiency in the

packing business of the United States enables it to average to return to producers from 75 to 85¢ out of every dollar that it receives for its meats and by-products. During 1936, the money that Swift & Company received for its meats, butter, eggs, poultry, cheese, hides, glands, sheepskins, and dozens of other products and by-products was paid out as follows:

76.0	cents	went to producers of livestock and other agricultural products
10.6	"	went for Labor (including wages and salaries)
3.4	"	went for Transportation
.2	"	went for Interest
4.1	"	went for Supplies
4.2	"	went for Rents, Taxes, Refrigeration, Insurance, Pensions, Traveling, Telephone, Telegraph, Stationery, Depreciation and other expense items
		Balance remaining with Swift & Company:
1.5	"	Net Earnings
100	cents	

Swift & Company

Over a period of years, Swift & Company's net profits from all sources have averaged only a fraction of a cent per pound

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The National Wool Grower

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SUBSCRIPTION RATES—Payment of dues in the National Wool Growers Association includes a year's subscription to the National Wool Grower. Dues and subscriptions are received along with state association dues by the secretaries shown for the following states: Arizona, California, Colorado, Idaho, Montana, New Mexico, Oregon, Utah, Texas, Washington and Wyoming. To non-members in the United States and Canada \$1.50 per year; foreign, \$2.00 per year.

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Sheep and Wool Affairs at Washington

Washington, D. C., March 8, 1937

On February 24 the committee from the National Wool Growers Association spent five hours in discussing lamb marketing affairs with thirteen representatives of the Institute of American Meat Packers. Our committee consisted of President Rich, J. B. Wilson, and the writer. We are to meet again this month with the packers' special committee on marketing. Discussions relate largely to the comparatively low price levels for dressed lambs in recent years and the wide fluctuations in prices for live lambs.

Lamb Marketing

In Chicago we also discussed with the packers and with the committee of the American National Live Stock Association, proposed amendments to the Packers and Stockyards Act of 1921. A pleasing degree of agreement has been reached. Last week we went over the whole subject in an exhaustive way with officials of the Department of Agriculture and of the American Farm Bureau Federation. We expect that a useful bill will be introduced within a few days, with good prospects for passage at this session of Congress.

The Senate Committee on Foreign Relations has taken no action and held no hearings on the Argentine Sanitary Convention. A considerable number of senators seem content to let the matter rest. The committee has been occupied with the neutrality law and is soon to take up the series of peace treaties with South American countries which resulted from the recent conference at Buenos Aires. The issue of empowering the President to appoint new Supreme Court justices is overshadowing everything else and is likely to result in a great decrease in the amount of legislation completed at this session.

Argentine Convention

Numerous representatives of farm organizations are in conference with agricultural officials to shape legislation on the "ever normal granary," crop insurance, and production control. The insurance measure is before the Senate Agricultural Committee, but there appears to be difficulty in reaching agreement on the other topics. The idea of production control and of some type of taxing in connection therewith is by no means out of the window. There is some consideration for the idea of offering legislation that might be popular with farmers and in conflict with Supreme Court ideas of constitutionality. This relates to the movement to align the farmers back of the President's plan for changing the court.

The Reciprocal Trade Agreement Act of 1934 has been extended until 1940. Twenty-four senators, including ten Democrats, voted against extension. There have been no announcements of intention to negotiate new trade agree-

ments. It is rumored that new items may be added to the Canadian agreement and negotiations with Great Britain are expected to be announced when the air is clearer as to the effect of the new neutrality law.

The situation on priority status for Taylor Act permits, which was discussed somewhat strenuously in the February Wool Grower, has again changed. The announcement on January 28 of a general priority rule of one year's use between 1929 and 1934, in opposition to the position of the local boards, had the effect of quieting a troublesome appeal case from Colorado District No. 6. Livingston, the appellant from the decision of the Director of Grazing, had shown one year's use of his lands, but the local board rule called for two years' use. It was considered that the new rule would admit Livingston to the range over the opposition of the board.

Subsequently, however, the Secretary of the Interior approved the recommendation of the district supervisor that the two-year rule be reinstated. Other districts have made requests for special treatment and exemption from the one-year priority rule.

It is now apparent that section 3 of the Taylor Act recognizes prior use to a greater extent than has been supposed. The Secretary of the Interior considered his priority rule to be consistent with the law as a means of distinguishing between applicants in the preferred classes whose total claims for grazing are in excess of the resources of the district. Then, if a one-year priority rule is legal, so would be a rule for any other number of years. And so in the slow course of time and administrative experiments, the operation of the Taylor Act may come closer than it has been to what was originally expected.

There has been no action on the bill to amend the law so as to compel the creation, and establish the permanency, for advisory purposes, of the same local boards that are now functioning under the general provisions of the law.

The annual meeting of the directors of Associated Wool Industries will be held in New York on March 10. At that time Mr. Wilson and I expect to see whether agreement can be reached with manufacturers on a bill for labeling of fabrics and garments to show the content of rayon or cotton. The report on this question, as approved by the last convention, favors early action on a plan of labeling to show use of other fibers in wool fabrics, leaving the shoddy question in abeyance for the present at least.

F. R. Marshall

Fabric Labeling

Additional Money for Wool Marketing Probe

THE Senate Committee on Contingent Expenses has approved a request for an additional appropriation of \$10,000 for the investigation of wool marketing. No time has been announced for hearings before the committee. It is understood that the auditing of books of wool concerns is about finished but the auditor's report is not yet ready for submission to the committee.

A request has been made of the Senate Committee on Investigation of Wool Marketing to study the effect upon growers of futures transactions on the Wool Top Exchange.

Livestock and Farm Organizations Present Opposition to Argentine Sanitary Convention

THE letter printed below was submitted to the Senate Committee on Foreign Relations on February 9, 1937, as an expression of the position taken by the leading livestock and farm organizations in the country on the Argentine Sanitary Convention. It carried the signatures of representatives of the American Farm Bureau Federation, the American National Live Stock Association, Farmers Educational and Cooperative Union of America, National Cooperative Council, National Cooperative Milk Producers Federation, National Grange, National Live Stock Marketing Association, National Dairy Union, and the National Wool Growers Association.

Washington, D. C.
February 9, 1937

TO THE MEMBERS OF THE SENATE FOREIGN RELATIONS COMMITTEE

For almost a year and a half there has been pending before your committee an agreement signed by the Diplomatic Officials of this country and Argentina and known as the Argentine Sanitary Convention. The undersigned, who are the official representatives of the major national livestock, farm and dairy organizations of

this country, take this opportunity of commending you on having so far taken no action to ratify this agreement and to urge that you maintain that position with respect to this very important matter.

We feel sure that it is correct to say that every livestock producer in this country is bitterly opposed to any modification of the existing quarantine against imports from countries where foot-and-mouth disease is known to exist. Many of them have had costly experience with this treacherous disease in the outbreaks which occurred in this country in 1914, 1924, 1925 and 1929. That the quarantine has served the industry well is clearly shown from the fact that since it was made rigid on January 1, 1927, there has been only one minor outbreak in this country.

It is claimed that the ratification of the Argentine Sanitary Convention would only permit imports of a relatively small amount of lamb and mutton from the southern portion of Patagonia. There is no such limitation expressed in the document as it pends before you. We call your attention particularly to the final sentence in Article III, reading as follows:

"Neither Contracting Party may prohibit the importation of animal or plant products originating in and coming from territories or zones of the other country which the importing country finds to be free from animal or plant diseases or insect pests or from exposure to such diseases or pests, for the reason that such diseases or pests exist in other territories or zones of the other country."

Under this provision it would be mandatory upon Dr. Mohler to permit importations from a zone or territory which his agents found to be temporarily free from disease or exposure thereto.

We do not charge that foot-and-mouth disease exists at all times in all sections of the Argentine. Instead, it is a well-known fact that the outbreaks are more or less intermittent and that certain sections of that country are free of disease for a period of several months at a time. During such a period it would be possible for all infected animals to be removed as disposed of, and it would be impossible for our official agents to find any trace of the disease. That would not mean that dormant germs did not exist in the area, because on page 77 of Department Circular 400, issued in December, 1926, it is shown that the disease reappeared on the Jacobs Ranch in Texas (just south of Houston), in 1925, 283 days after the last infected animal was killed the previous year. In Merced County, California, at about the same time, the virus remained alive 345 days, according to the same authority.

Foot-and-mouth disease exists today in more than sixty countries of the world. The major livestock-producing countries of the world which are free from this disease

can be counted upon the fingers of your hands. If the Argentine Sanitary Convention should be ratified, even though its provisions were not immediately available to all other countries of the world with which we have most-favored-nation agreements (and so far as we know there has been no official determination of this matter), a dangerous precedent would be established and all the other infected countries, equally sensitive as is the Argentine, would immediately press for ratification of similar agreements. Inevitably we would import the disease sooner or later.

In much of the publicity which has been issued by the State Department, dealing with this proposed pact, it has been stated that the only possible effect would be the importation of lamb or mutton from Patagonia, coupled with the assurance that there is not and never has been foot-and-mouth disease in Patagonia. Patagonia is a rather loosely defined region, but, during the time that this agreement has been pending before you, rather careful study has been made as to just what is Patagonia, and we find that most authorities agree that Patagonia consists of the territories of Rio Negro, Neuquen, Chubut and Santa Cruz.

The records in the Bureau of Animal Industry show that there were outbreaks of foot-and-mouth disease, reported late in 1935 in the official monthly bulletins of the Argentine Government, both in the provinces of Neuquen and Rio Negro, the two northernmost provinces in Patagonia. It is significant to note, however, that the last monthly bulletin on file in the Bureau of Animal Industry containing such official Argentine reports is dated January, 1936. For some reason, a whole year has elapsed during which these official monthly bulletins have been suppressed. Furthermore, these same bulletins show that the provinces of Mendoza, La Pampa and Buenos Aires, which join Patagonia on the north and northeast, all have had recent outbreaks of foot-and-mouth disease.

You might be interested in what the people of the Argentine expect of this treaty. On January 9, 1937, the "National Provisioner" of Chicago, had the following to say on this subject, based on an article appearing in "La Res," an Argentine livestock journal:

"Argentina's hopes of exporting meat to the United States have been considerably strengthened by recent developments, according to 'La Res,' Argentine meat magazine. The statement of President Roosevelt at Buenos Aires, in which he advocated ratification of the proposed United States-Argentine Sanitary Convention, was especially welcome. * * * Relaxation of American restrictions would be justified, from the point of view of the American consuming public in the eastern industrial zones, according to 'La Res.'"

Perhaps no country in the world has spent the tremendous sums of money to eradicate disease that our government has spent, and certainly no country boasts a bureau of animal industry so efficient as ours. The campaign to eradicate tuberculosis is nearing a close and already the dairy industry is pointing out that, for the protection of the American people, importations of dairy products should be denied from countries which do not comply with the same standards that we have set up in this country. That rule should likewise apply in the matter at issue here. It should be our charge to see that any country seeking access to our markets with their animal products should comply with the same animal health standards which are enforced in this country and obligatory upon our domestic livestock producers.

We attach hereto a brief statement which lists some of the major objections which the livestock industry of this country hold to the ratification of the Argentine Sanitary Convention. A short explanatory paragraph is given in each instance.

We also attach hereto Farmers' Bulletin No. 666, issued by the U. S. Department of Agriculture, which gives in concrete form the essential facts in regard to foot-and-mouth disease, the condition existing in foreign countries, a brief history of the outbreaks in the United States from 1870 down to date, a recital of the origin of the infections, and a summary of the methods used in this country to eradicate the disease.

We wish to call your attention to the fact that in the year 1935, 28.2 per cent of farmers' cash income in this country came from meat animals, and another 19.3 per cent from dairy products; also that the meat-packing industry is one of the greatest in the entire country and, indeed, in the whole world.

We urge your careful consideration of the material submitted and your continued opposition to any change in the existing quarantine.

Respectfully submitted,
 American Farm Bureau Federation,
 By Chester H. Gray, Washington Representative
 American National Live Stock Association, By F. E. Mollin, Secretary
 Farmers Educational and Cooperative Union of America, By E. H. Everson, President
 National Cooperative Council, By Robin Hood, Secretary-Treasurer
 National Cooperative Milk Producers' Federation, By Charles W. Holman, Secretary
 National Grange, By Fred Brenckman, Washington Representative
 National Live Stock Marketing Association, By P. O. Wilson, Secretary
 National Wool Growers Association, By F. R. Marshall, Secretary
 National Dairy Union, By A. M. Loomis, Secretary

Decision in Denver Yardage Case

THE Secretary of Agriculture announced his findings in the Denver stockyard rate investigation conducted under the Packers and Stockyards Act of 1921 on February 17 of this year. It ordered reduced charges for that market as shown in the table to become effective on March 19, 1937. On March 10, however, the stockyard company filed suit to set aside the Secretary's ruling and obtained an injunction against the enforcement of the new rates. As in previous similar cases, the difference in the prescribed and prevailing rates is to be impounded and returned to shippers if the Secretary's decision is finally upheld by the courts.

	RAIL		DRIVE-INS	
	Pre-scribed Rates	Pre-vailing Rates	Pre-scribed Rates	Pre-vailing Rates
Cattle .....	.30	.35	.35	.40
Calves .....	.20	.25	.25	.27
Hogs .....	.12	.12	.14	.14
Sheep .....	.07½	.08	.10	.10

(All rates in cents per head.)

In arriving at the rates for the Denver market, the Secretary allowed a 6½ per cent return on a total property valuation of \$2,792,700. The rate of return set up by the Secretary in some previous stockyards cases has been around 7 per cent, which representatives of the National Wool Growers Association have insisted was too high when compared with the yields from other kinds of investments at the present time. In the present order, the Secretary held that "the low yield procurable on investments, and the opinion of at least one of the witnesses that the yields would continue low for a number of years, lead to the conclusion that respondent is entitled to charge rates which will yield an average rate of return of 6½ per cent."

The total valuation of the yards property, \$2,792,700, does not include the land, buildings and equipment used in connection with the National Western Stock Show, and deficits from the operation of the show were not set up as a proper expense of the company

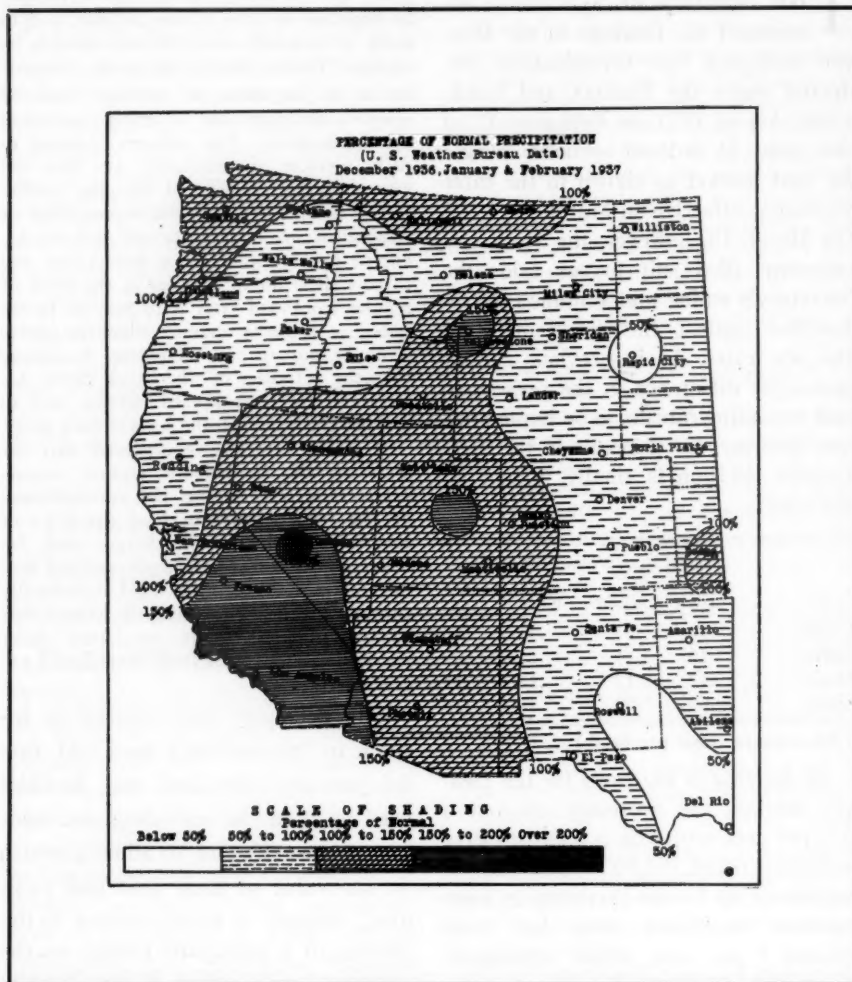
in connection with its yardage service. In this connection the Secretary found:

The stock show is a community enterprise. In such an enterprise respondent may be expected to have a keen interest and to make a reasonable contribution towards its success. That it does make such a contribution in the form of services rendered without compensation is amply supported by the evidence. The expenses incident to such services automatically go into the rates paid by the general shipping public. But to assume that it is the responsibility of respondent to underwrite all deficits incurred by the Stock Show Association and to pass these on to shippers in the form of regular stockyard rates is to pass on to the public in rates an amount which in justice it ought not to pay. Moreover, to assume that the activities of the Stock Show Association are a stockyard service and to include the value of the association's property in the rate base necessitates that the Secretary of Agriculture assume responsibility for determining the reasonableness of the general entrance fees, the price of reserved seat tickets, the charges made for concessions during show week, and the rentals for various activities held occasionally throughout the year. I cannot believe that Congress intended that regulation under the Packers and Stockyards Act should extend so far.

The Secretary also refused to include in "respondent's used and useful property the land and facilities used by it in the unloading and loading of livestock and to allow a return on the value of such land and facilities," because it would amount to the levying of a stockyard charge on the shipping public which it had already paid in the form of railroad rates. This finding was based on a ruling of the Interstate Commerce Commission that the services of unloading and loading livestock from and into cars is a common carrier service.

The procedure in which the Secretary has just issued his order commenced in November, 1934. Previously, lower yardage rates had been ordered for the Denver market, but the stockyards company appealed from the Secretary's order and in May, 1932, the three-judge federal court reversed the Secretary's action on some points at issue and instead of appealing from this decision, the Secretary instituted new proceedings, in which his order has just been given.

Moisture Record for the Winter Months



THE area on the accompanying chart having less than half the normal moisture in the past three months is smaller than it has been in any quarter for more than a year, though nearly half the map shows less than normal precipitation for the winter months. A compensating distribution appears, however, the area having the heaviest autumn precipitation (the Texas Southwest) being approximately the region with the least the past winter, while the area with the greatest excesses the past three months (the southern parts of California and Nevada) has been fairly dry for some time previous. Fairly generous excesses of moisture have come the past winter also to much of Nevada, Utah, south-

ern Idaho, western Wyoming and western Colorado. Conditions are not very good, considering the winter's precipitation, in much of eastern Oregon, southeastern Washington, and the entire Rocky Mountain eastern slope region, from Canada to Mexico, the Texas Southwest being much the driest of all. The distribution of the moisture through the winter months, in the wetter regions, was fairly equable, especially in December and February. It is also noted that in the drier regions, all three months were deficient in moisture as a rule. However, in the northern Great Plains and eastern slope areas, north of Colorado, February was quite dry.

Precipitation on Western Livestock Ranges during December, 1936, and January and February, 1937, with Departures from Normal for Three Months and for Six Months (In Inches)

	Normal 3-Months' Precipitation	Actual 3-Months' Precipitation	Excess (+), or Deficiency (-) 3 Months	Excess (+), or Deficiency (-) 6 Months
Washington—				
Seattle	14.43	14.78	+0.35	-5.96
Spokane	6.34	5.82	-0.52	-2.68
Walla Walla ...	5.78	3.84	-1.94	-5.47
Oregon—				
Portland	18.68	20.64	+1.96	-7.03
Baker City	4.32	2.55	-1.77	-4.11
Roseburg	15.14	13.47	-1.67	-8.99
California—				
Redding	19.08	16.77	-2.31	-9.36
San Francisco...	14.40	13.08	-1.32	-4.54
Fresno	4.61	7.54	+2.93	+3.77
Los Angeles ...	8.80	16.49	+7.69	+6.97
Nevada—				
Winnemucca ...	3.33	4.14	+0.81	+0.33
Reno	3.70	5.10	+1.40	+0.49
Tonopah	1.10	2.22	+1.12	+1.84
Arizona—				
Phoenix	2.57	3.71	+1.14	+0.13
Flagstaff	7.18	8.98	+1.80	+1.79
New Mexico—				
Santa Fe	2.16	2.01	-0.15	+0.70
Roswell	1.77	0.48	-1.29	+0.05
Texas—				
Amarillo	2.02	1.35	-0.67	+0.01
Abilene	3.31	1.70	-1.61	+2.20
Del Rio	1.79	0.71	-1.08	-2.03
El Paso	1.39	0.95	-0.44	+2.17
San Angelo ...	3.10	1.79	-1.31	+23.00
Montana—				
Helena	2.30	1.71	-0.59	-1.34
Kalispell	4.13	4.83	+0.70	-0.49
Havre	1.84	2.73	+0.89	-0.58
Miles City	1.78	0.96	-0.82	-1.70
Williston, N. D.	1.53	1.15	-0.38	-1.78
Idaho—				
Boise	4.74	3.82	-0.92	-3.85
Pocatello	3.87	4.31	+0.44	-1.60
Utah—				
Salt Lake City..	4.25	5.71	+1.46	+0.69
Fillmore	4.75	6.54	+1.79	+1.03
Castle Dale	2.06	3.38	+1.32	+0.45
Monticello	4.30	4.98	+0.68	-0.60
Modena	2.63	2.86	+0.23	+1.18
Wyoming—				
Yellowstone	2.15	3.34	+1.19	-0.21
Sheridan	2.19	2.14	-0.05	+0.06
Lander	1.87	1.04	-0.83	+0.35
Cheyenne	1.61	1.15	-0.46	-1.08
Rapid City, S.D.	1.37	0.64	-0.73	-1.30
No. Platte, Neb.	1.45	1.35	-0.10	-2.20
Colorado—				
Denver	1.66	1.24	-0.42	+2.22
Pueblo	1.28	1.12	-0.16	+0.81
Grand Junction	1.81	2.01	+0.20	-0.79
Dodge City, Kan.	1.75	2.17	+0.42	-0.70

Around the Range Country

The notes on weather conditions, appearing under the names of the various states in Around the Range Country, are furnished by J. Cecil Alter of the U. S. Weather Bureau and based upon reports and publications for the month of February.

The Wool Grower welcomes and desires communications from interested readers in any part of the country for this department of the Wool Grower and also invites comment and opinions upon questions relating to the sheep industry and of importance and significance to wool growers.

WYOMING

Two or three spells of cold weather came, with subzero temperatures for several days, especially over the middle and northern portions. Precipitation occurred occasionally, improving moisture supplies in most sections, though the snow was unevenly distributed, first deep in the southwest, and later, deep over the northeast. The southeastern portion still needs moisture, where wind erosion has done some farm damage. Livestock have done fairly well, as they have had plenty of feed. Deep snow covered the middle and northern counties at times.

Rock Springs

The first part of February was quite severe, but the last four days it has been quite nice. Now (the 26th) it is snowing again and it looks like more winter. The month as a whole was about average, although we have a little more snow this year. No unusual losses have been reported in this section.

More feeding has been necessary this winter and alfalfa hay, delivered here, is running from \$15 to \$17 a ton.

Costs of supplies seem to be about 25 per cent higher and wages are being raised also. We pay 8 per cent for borrowed money.

I believe coyotes are getting a little more numerous in most parts of this territory, at least they seem to be working on the sheep more, especially in

certain localities. The Biological Survey is getting more coyotes now, but the price of furs has caused several private trappers to lay off and without their aid, it seems to be too big a job for the Survey. Most of the sheepmen around here seem to think the best solution would be a good national bounty, which would cause more hunters to work on the coyotes during denning season. We have always had money appropriated by the state for a bounty, but it doesn't seem to last very long for some reason or other.

S. A. Megeath

Douglas

February weather has been fair, just about like that month in 1935. Winter losses have been about normal, to date (March 1), but there will probably be a heavy loss in lambs this spring from coyotes.

A smaller number of range sheep have been fed this winter; hay in the stack is priced at \$10 to \$12. About the usual number of ewes are bred to lamb this spring.

Camp supplies are costing us much more than a year ago.

Eight per cent is the interest rate on borrowed money.

Rhea Tillard

Midwest

Feed has been scarce, the weather cold and lots of supplemental feeding necessary during the past two months. We have fewer sheep than a year ago, but more feeding has been done. No hay is for sale (March 1), but last fall it could be bought in the stack at \$12.50 to \$15 a ton.

Our ewe bands are short by ten per cent of the number bred to lamb a year ago. Fewer ewe lambs were kept last fall.

There is more liquidation of sheep outfits by creditors now than I have ever known. The prevailing interest rates for sheep loans are 7 to 8 per cent from the banks and 5½ per cent from the P.C.A.

Some 1937 fine wools have been con-

tracted at 30 cents and crossbreds at 33 cents. X.

MONTANA

The first and last weeks brought some subzero temperatures, with stormy weather, but most of the month was normal or mild, favoring livestock. However, deep snows continued to hamper range stuff east of the main range much of the month. Feeding has been rather heavy in places, and feed supplies are generally getting low, though open ranges are affording a small amount of forage. Some sheep losses occurred as a result of snow-bound herds being beyond reach of vehicles with feed. Farm lambing is under way with average results. Most livestock are in fair to good condition.

Regina

The weather was bad during February and no range was available; it was the worst February in fact that we have had in a number of years. There isn't any hay for sale, but last fall the selling price was \$15 a ton.

About half as many ewes are bred to lamb here this spring, but the winter toll so far has not been so heavy as it was last year.

Wool growers are paying 5 per cent for money borrowed from the P.C.A. and 8 per cent at the regular banks. The latter are increasing the extent of their loans to sheepmen.

Supplies of all kinds are about 10 per cent higher than they were a year ago. Coyotes also are on the increase.

Herman Krumwiede

Alder

We are enjoying mild, thawing days at present (March 5), after almost two months of extreme cold, windy and stormy weather. Stock are in fair to excellent condition for the most part in spite of the cold weather, but it took an abundance of feed during January to hold them in flesh.

Most of the formerly "open range" in Beaverhead and Madison counties is leased under section 15 of the Tay-

lor Grazing Act and the cost runs from $1\frac{1}{4}$ to $2\frac{1}{2}$ cents an acre for a year. A lot of it has been illogically allotted, but perhaps in time the situation will be worked out satisfactorily.

Coyotes are plentiful and the Biological Survey is not much help in their control. Personally, I would like to see a good stiff bounty on them in summer and a small one in the winter when the fur is good. If the Biological Survey is going to be of any material benefit they should change their policy of control to one of extermination. It is imperative that the stockmen through their associations and individually begin a program of counter-propaganda and education in order to off-set the harmful, absurd and false propaganda being spread by some of the various conservation groups, or else they will find themselves gradually forced against the wall. Every stockman should join the local sportsmen's association for balance, and influence the adoption of sane policies.

S. E. Whitworth

IDAHO

A few cold spells of short duration occurred, but much of the month was seasonal or quite mild, melting much of the lower snow. Rain occurred occasionally in moderate amounts at lower elevations, and snow higher on the mountains. It was not a severe month on livestock as feed has been on hand in sufficient quantities. All highways at the greater elevations were blocked occasionally by snow. Some lambing was reported, with good results. Livestock are mostly in good condition.

Hailey

There is more feed than needed in this section and a good deal of hay will be carried over. Weather has been ideal since the first of February. Generally, conditions during February have been about the same as in recent previous years, but with more feed. Over the state as a whole, more range sheep have been getting feed than last year, but all the sheepmen have all the hay they need and are not buying any now; \$6 a ton (8-foot measurement) is the quoted price (February 25).

I believe the replacement ewes purchased last fall will increase the total number bred to lamb this spring above that of a year ago. Losses this winter have been below normal. There seems to be less disease among the sheep this spring than we have had for several years.

Costs of supplies are 10 to 15 per cent higher than a year ago, and while wages are the same now as six months ago, they are about \$10 more than last year.

Interest rates vary from 5 to 8 per cent. Some sheepmen feel they would rather pay a bank 7 per cent interest and get a loan when they want it without any additional expense, than to wait from six to eight weeks to close a P.C.A. loan, pay all the incidental expenses and make several trips to the loaning agency—all of which costs more than the extra 2 per cent.

Coyotes are getting a little more troublesome from year to year.

N.H.H.

Idaho Falls

Practically all sheep in this locality have been on hay during February. With snow in the valley above the average depth and temperatures several degrees colder, it has taken more feed than usual. The average price of hay is \$7 a ton. Winter losses have been about average so far, but I believe the general condition of the sheep is a little below normal for this time of the year. Breeding bands are about 5 per cent larger than a year ago.

Money can be borrowed at from 6 to 8 per cent interest, and it is a little easier to obtain loans from banks than it has been.

Supplies are up about 20 per cent in price.

The coyote situation is about the same; quite a number are being taken by the hunters, but the supply is always plentiful.

A. L. Orme

WASHINGTON

Rainy weather prevailed in the west, and snowy weather in the east, amounts of precipitation being ample every-

where, and of too great frequency for the best livestock interests. Snow blockades occurred on highways and railways, and hampered work with livestock in middle and eastern sections, though some of the warmer wheat land in the southeast is becoming bare. Heavy livestock feeding has been necessary most of the time, but livestock are generally in satisfactory shape.

Kalama

Sheep in this locality are run in small flocks on the farms. We have had an exceptionally hard winter. Alfalfa hay is \$21 a ton (baled and delivered).

Lambing is now (February 24) in full swing, with about as many ewes as a year ago on hand.

Coyotes and cats are on the decrease as quite a few local hunters are at work.

Local banks are charging 8 and 10 per cent for loans on sheep. Running expenses are somewhat higher than last year.

Fred L. Konkle

Goldendale

The ground has been covered with snow since Christmas Day. I have been in the sheep business for 20 years and this is the longest period I ever remember with the ground so covered. I think about the usual number of range sheep are getting feed this winter. Alfalfa hay, f.o.b. at the feeding place, is \$20 to \$21 a ton; bundle wheat is \$16. As nearly as I know, losses to date (February 28) are very small. However, winter is still with us and hay prices increasing; if the pocket book holds out, we may get by with comparatively small losses. About the same number of ewes will lamb this spring as in 1936.

It is costing us about one third more for supplies this year than last; wages were advanced last July.

I do not know much about the attitude of the regular banks toward sheep loans, as I deal with the P.C.A.; interest rates range from 6 to 8 per cent.

Coyotes are getting more numerous every year.

A. C. Vincent

OREGON

Much cold weather occurred, and while many mild days were reported, the month averaged colder than normal in most sections. Frequent rains of generous amounts occurred in the western portion, while snows occurred in the mountains and farther east, hindering traffic and livestock movement at times. Very little growth has occurred, as snow covers much of the country, though there is ample moisture where there is no snow. Livestock have required full feeding most of the time in most sections, as there has been little forage available.

Pilot Rock

All sheep are being fed (February 6). Weather conditions have been very severe, the worst snow drifts in 20 years or more. Nearly all the hay was bought by January 15, at \$10 a ton.

About the same number of ewes are bred to lamb this spring as in 1936.

There are not many coyotes on my range as there is a private trapper working there.

I know of no forced liquidations in this section. Money can be obtained at 6 per cent.

A. W. Rugg

Keating

All stock has been fed in this locality during February—the month has been one of the nastiest and severest on record. Winter losses, as far as I can see, are about as usual. The lambing loss of ewes, I believe, is less in cold weather because of less danger of infection. About the same number of ewes are lambing this spring as a year ago.

The P.C.A. is loaning money at 5 per cent; banks are charging all the way from 4 to 8 per cent, depending on who wants to borrow the money. Every time two sheepmen get together now, usually a third one shows up, only he is a representative of one of the big banking chains.

Supply costs are up. When a sheepman walks into a store and the merchant begins telling him how good wool is, look out—an extraction process is

just starting, with the merchant as the chief extractor.

If there were any profit in raising coyotes, the state of Oregon and Baker County in particular could balance Mr. Roosevelt's budget in one season.

I. D. Staggs

Pilot Rock

All stock is on feed (March 1). There has been a lot of snow accompanied by wind, resulting in heavy drifts, which should give plenty of run-off water for range irrigation. At this date the weather is breaking; it is nice and warm and the grass is starting. Alfalfa hay has sold from \$10 to \$14 in the stack; good quality alfalfa is very scarce now.

Winter losses have been about 40 per cent below those of last year, as the snow has made good feeding weather.

In this locality about the same number of ewes are bred to lamb this spring as in 1936.

Costs of supplies have increased from every angle, probably 10 to 15 per cent on an average. I do not believe there is much of an increase in the loans to sheepmen from the regular banks, but they would be glad to extend credit to the very best outfits. Most wool growers are paying 5 per cent interest on borrowed money.

I believe that in counties where co-operation and funds have been given the Biological Survey, coyotes are held down in good shape. More attention should be given this question by sheepmen. The Survey can keep them down but it costs money.

W. Percy Folsom

CALIFORNIA

Temperatures were near or below normal the first two weeks, but it was appreciably warmer the rest of the month, favoring vegetation growth at the lower levels in the warmer regions. Rains occurred occasionally, in goodly amounts as a rule, giving ample moisture supplies in most sections, excepting only the far southeastern portion. Grass and cover crops have made a good start, but it is rather late and livestock have needed forage in some

sections. A few losses occurred in the northern portion as a result of feed shortages and cold weather.

Winters

This has been the hardest winter on livestock in northern California in 20 years. Losses in ewes and new-born lambs have been heavy and feeding expense has been high. There was plenty of moisture during February and green feed is commencing to grow slowly (March 1), but feed conditions generally are at least 50 per cent below the average for this season of the year. All the range sheep have had to be fed a much longer period than usual. Baled hay is costing us \$30 per ton. Probably more hay and concentrates have been fed this winter than during the past ten years combined. About the usual number of ewes were bred to lamb this season, but the winter's mortality has been much greater than in 1936.

There has been no material increase in the extent of loans to sheepmen from the banks; most of the financing here is through the government agencies, which charge 5 per cent interest.

Supplies are costing us from 5 to 10 per cent more than a year ago.

Coyotes are less numerous due to excellent work of county trappers.

H. E. Fenn

Bakersfield

January was a cold, wet month; more rain than in previous last two years for that month and much colder weather. The average amount of hay is being fed, but more grain than usual. Hay in the stack is priced at \$11.50 to \$15.50. The number of ewes bred to lamb this season was 6 per cent below that of last year.

The prevailing interest rate is 6 per cent.

Due to snow and colder weather, I think, coyotes are much more troublesome than they were a year ago.

Thomas Echenique

NEVADA

Excepting a few cold spells, lasting only a few days at a time, the month was pleasant enough, with some mild

(Continued on page 40)

Conservation and Sheep

CHALLENGING a recent declaration, credited by the press to Dr. Ray Lyman Wilbur, president of Stanford University, to the effect that the future safety of California depends largely on the removal of sheep from its mountain areas, Mr. F. A. Ellenwood, honorary president of the National Wool Growers Association, has made the following statement (originally printed in the Red Bluff, California, Daily News):

In a recent issue of the San Francisco Chronicle, Dr. Ray Lyman Wilbur, president of Stanford University, speaking before a luncheon club in San Francisco was quoted as follows:

"The safety of California depends on the water supply, which in turn depends on keeping snow in mountains as long as possible. Vegetation holds back the snow and sheep destroy vegetation.

"There is enough mutton, wool and lamb in the world without our raising sheep in California's mountains. Babylon did not fall because it was a sinful city. If all sinful cities fell, some of us would have to move. No Babylon fell because they sent too many goats and sheep into the hills."

We are heartily in accord with the first statement that, "the safety of California depends on the water supply which in turn depends on keeping snow in the mountains as long as possible." But in stating that "vegetation holds back the snow," we cannot agree. Nor is such statement borne out by facts, if anyone will take the trouble to investigate. Go up into the mountains about July 1st and we find where the ground is all covered with brush vegetation. The snow has melted and gone. But where there is no brush, we find solid banks of snow many feet deep, slowly melting and furnishing water for the streams until late in summer and fall.

The reason for this is the fact that snow makes a solid pack where brush does not interfere, whereas when snow falls on brush-covered areas, the air circulates through the brush, causing the snow to melt much sooner; therefore causing a greater run-off of water in the spring and early summer when we have a surplus of water. Anyone can prove this statement by observing the surface of the ground where snow banks remain and where snow has melted.

The next statement, "sheep destroy vegetation," can best be answered by self-evident facts. Many of our ranges where sheep have been grazing continuously for 50 years are better now than they were many years ago. Many farmers in all sections of the United States keep sheep on their farms, not for any profit they expect to make, but solely for increasing the fertility of the soil,

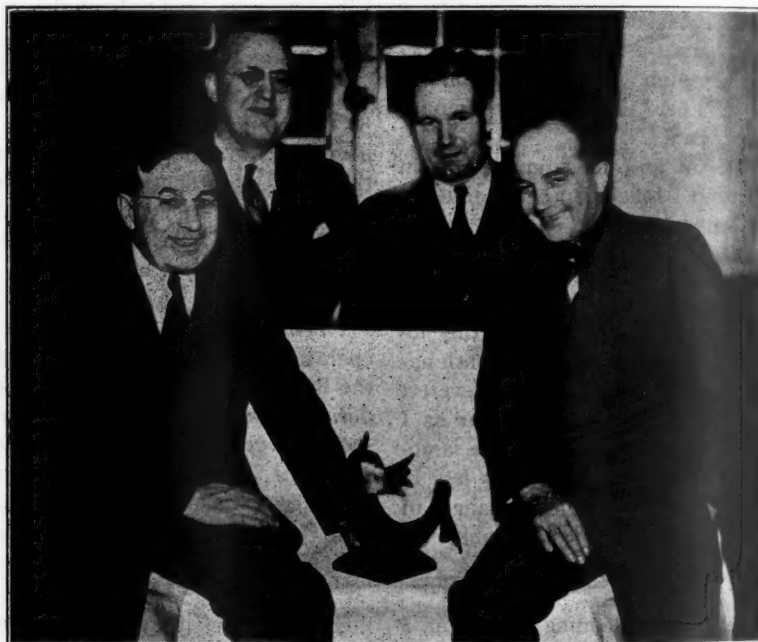
which means more vegetation. Many of our former ranges used continuously for many years are now so densely covered by brush vegetation that they have been abandoned altogether by livestock, and many by wild game as well.

This increased brush vegetation, caused by a fire prevention policy, is doing exactly opposite to the claims of the so-called conservationists. Instead of conserving water, it absorbs the moisture and decreases the stream-flow instead of increasing it. This statement is proven first by common sense, secondly, by engineers in actual tests. ****

The next statement, "there is enough mutton, wool and lamb in the world without our raising sheep in California's mountains," may be true, but it would also be true that there are enough oranges, lemons, almonds and olives produced in the world

without any need for them being produced in California; that there is enough beef produced in South America so that beef production is unnecessary in California; and that there are enough vegetable fats produced in the world to make such fats and animal fat production unnecessary in California. We believe, and I feel sure that Dr. Wilbur does also, in protecting these industries for the general welfare of the United States of America. This being a fact, then it is more important to consider the welfare of the sheep industry from a preparedness standpoint, if from no other. In case of war wool is as necessary as powder, battleships, and what not for which we spend millions annually. In case of war should this country become dependent elsewhere for its wool supply, we are defeated. So from this standpoint the sheep industry deserves every consideration.

Unique Ram's Horn Gift to Association



The carved sea serpent shown above had its beginning as a ram's horn. While on a recent trip abroad, Mr. L. F. Swift found this unique handling of a sheep's horn in a German shop, purchased it, and through representatives of the Swift Company presented it to the National Wool Growers Association during the recent convention at Albuquerque, New Mexico.

The pleased group around the sea serpent are: Back, left to right, Mr. Paul Smith, vice president of Swift and Company, Mr. R. C. Rich, president of the National Wool Growers Association; front, left to right, Secretary Marshall of the National Association and Mr. F. M. Simpson of Swift's Agricultural Research Department.

Mr. L. F. Swift retired from active connection with Swift and Company five years ago, but apparently retains an interest in the sheepmen.

Bighead in Sheep Caused by Plant Poisoning

By A. B. Clawson, Physiologist, and W. T. Huffman, Assistant Veterinarian, U. S. Bureau of Animal Industry.

In preceding numbers of the National Wool Grower it was stated certain plants are to be found associated with the many areas throughout the intermountain states (see Fig. 1), on which bighead in sheep causes serious losses. In the National Wool Grower for January, 1935, these plants were spoken of as coal-oil weed, more commonly called coal-oil brush, and spineless horsebrush, two plants that are closely related and although on the ranges they sometimes appear very different, they have flowers and fruits that closely resemble each other. The general similarity of these two plants can be seen in figures 2 and 3. In this journal for January, 1936, the results of a few feeding experiments were reported and it was shown that some of the sheep fed the plants developed typical cases of bighead. It was furthermore pointed out that while a number of the animals that had been fed the brush died without there being any evidence of swelling about the head, the effects on the internal organs of the body were identical with those in many similar cases that occurred on the range.

Feeding Experiments in 1936

Following the publication of the latter article, or in April and May, 1936, and at a time when cases usually appear on the Utah ranges, several additional feeding experiments were made with the plant called coal-oil brush. This is the species known to botanists as *Tetradymia glabrata*, and by some as little-leaf horsebrush. The results of these feedings fully confirmed the former conclusions regarding its connection with the sheep disease. They also added considerably to what had previously been known about the effects of the plant on animals.

The experimental work that was done in the spring of 1936 was made possible largely through the courtesy

of Mr. W. J. Wintch, a member of the National Wool Growers Association, through whom experimental animals and a convenient place to carry out the desired tests were obtained. The principal purposes of this part of the investigation were: (1) To determine the effects on sheep of various quantities of the plant; (2) to find out at just what stage of growth the brush is most poisonous; (3) to learn as much as possible about the conditions under which range sheep eat the coal-oil brush; and (4) if possible, to obtain information as to why in these animals the swelling of the head occurred in some cases and not in others.

With a bunch of sheep small enough so that each animal can be kept under constant observation all the conditions that confront a larger band cannot be reproduced; however, they can be closely enough approximated to justify the drawing of certain conclusions. For present purposes it will probably be sufficient to give only the main facts concerning this part of the work. The sheep as a whole were herded on a range adjoining that used by many bands of sheep, but in such areas and in such a way that unless actually selected for feeding it, they could not eat any coal-oil brush. A few, at stated times, were herded in patches of the

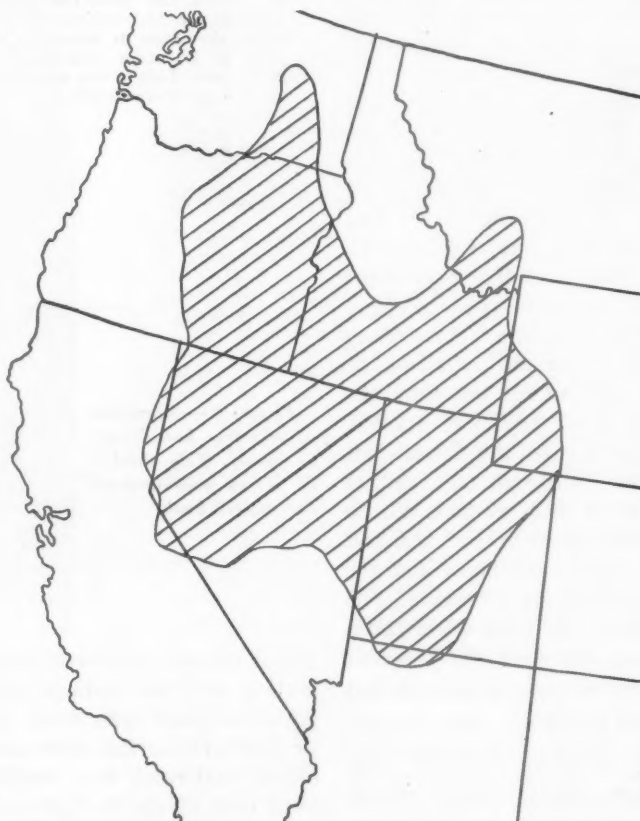


Figure 1.—Throughout the area indicated on this outline map are many areas on which big-head occurs. On these same areas either coal-oil brush or spineless horsebrush is abundant.

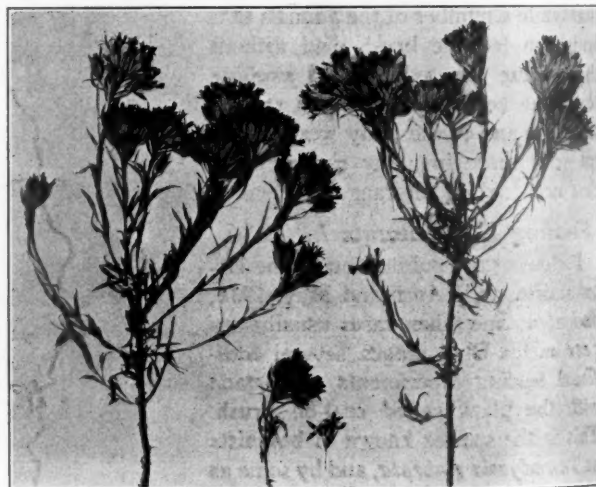
brush and records were kept of what each animal ate. From time to time others were chosen and fed definite quantities of selected parts of the coal-oil brush that was at various stages of growth. In this way, of the forty sheep used in the experiment, eighteen were fed weighed quantities of the brush and six were, at times, herded in patches of it. Otherwise, they were all treated exactly as were the remaining sixteen animals. The sixteen were so herded that they had no opportunity at any time of eating the coal-oil brush. Of the eighteen animals that were fed weighed quantities of coal-oil brush, three died without any swelling of the head developing, and nine, following the feeding, developed typical bighead while the others were only slightly or not at all affected. The six sheep that at times were herded in patches of the brush ate very little, if any of it, and none became ill. Furthermore, none of the sixteen sheep that were herded with the others but were not fed the coal-oil brush became sick or showed any tendency whatever of having bighead. It is of considerable interest that each one of the nine that had typical bighead was given of the coal-oil brush almost exactly one half of one per cent of its own weight of the young and growing leaves and twigs, or the same part together with the flower buds, and that those that died without any swelling of the head were fed larger quantities. Three sheep that were given one-half pound of the plant were sick but did not show the swelling. One of these was a black sheep and one was fed the flower buds by themselves. Although the head of the third one of these animals did no actual swelling, the sheep was sick and for several days after being fed the brush it kept hunting for shade. The results of these feedings when taken in connection with what was observed on the ranges during the same period and what had previously been learned, justified the previous conclusion that the grazing on coal-oil brush is one of the most important factors in the occurrence of bighead in the regions where it grows.

The results of the feeding experiments and of the field observations as made during the past three years had led to certain deductions or tentative conclusions. Some of these are of par-



Figure 2—Branches of coal-oil brush showing new shoots, leaves and flowers. From the time the plant starts growing in the spring until shortly after the stage as shown in this picture, it is more poisonous than at other times. This is the most poisonous species of "Tetradymia."

Figure 3 — Branches of spineless horsebrush in flower. This species is not so poisonous as the coal-oil bush.



ticular interest when considered in connection with the findings that are reported to have been made in the investigation of certain other disease conditions that result in a swelling of the head very similar to that seen in bighead. It is thought that some of the deductions and the reasons for them will be of interest to many of the sheep-

men, especially those using the ranges where bighead occurs.

Growth Habits of the Plant

Of the two plants, coal-oil brush and spineless horsebrush, the former (figure 2) is the more poisonous and is the more characteristic plant of the Utah deserts. It, next to bud sage, is one of the very earliest plants to start growth in the spring and even during the winter the inner bark of the smaller, tender stems is full of sap. About the time most of the desert plants are making their first growth this species is forming flower buds. By about June 1 its leaves have started to turn brown and shortly thereafter most of them fall off. During the period when it is making its most rapid growth this plant is more poisonous than at other times. This also, in regions where it grows, is the period when sheep are being trailed from the winter ranges to the lambing grounds.

The spineless horsebrush (figure 3) is more characteristic of the northern ranges on which bighead occurs but patches of it may be found throughout the entire region where coal-oil brush

grows. It is found also in patches on many of the summer ranges of the intermountain states. This plant starts growth later than the coal-oil brush but in most places on the lower ranges is in a rapidly growing stage at the time when the sheep are being trailed. At higher altitudes it, of course, starts growth later. Its leaves and old flowers

frequently cling to the bushes until late in the summer. It is of considerable interest that during warm periods this species sometimes puts out new growth late in the fall.

Poisoning by the Plants

The important thing to point out here is that the two species are making their most rapid growth at the time when most of the range cases of bighead occur. This is also the period when the plants are most poisonous and frequently a time when other kinds of green plants that sheep will eat are most abundant. As shown by the experiments, when coal-oil brush is fed at this time, 0.5 per cent of an animal's weight of green twigs and the attached leaves and flower buds is sufficient to

frequency with which the different animals became poisoned, that is, whether practically all the animals became ill at the same time or a few cases developed daily for several successive days.

As is well known among sheepmen, in many outbreaks as they occur in areas in Utah, a considerable number of the affected sheep die without any swelling of the head appearing. In some early and serious spring outbreaks which occurred at a time when only a small quantity of green plant material could be obtained, only a very few sheep had swollen heads. In all other respects the symptoms and effects corresponded to those always seen in more typical cases. In the same regions, but at times when green feed was more

feed. This theory has been advanced by two investigators who, in South Africa, are studying a sheep disease that is very similar to bighead and is caused by a plant poison. They have found in the disease they are studying that the swelling was due to a peculiar substance which, when it gets into the blood, makes the exposed skin of white animals very sensitive to sunlight. This is what is known as photosensitization. In the affected sheep which they have studied they found this substance to be present in the blood. A peculiar, and to us an interesting fact, is that this substance is produced when the green material of plants is broken down in the stomachs of sheep. Whether effects of the poisonous plants in some way



Figure 4.—A bighead case produced experimentally in the spring of 1936. The sheep was fed 0.5 per cent of its own weight of the new branches including young leaves and flower buds of coal-oil brush. The sheep died the day after this picture was taken.



Figure 5.—Two sheep, each of which was fed small quantities of the young twigs, leaves and buds of coal-oil brush and developed typical bighead as shown by the swellings under the jaw. The sheep standing later recovered. The other animal died about three weeks after this picture was taken. Before death it became totally blind and all the skin of the face and head was shed.

cause bighead and more than that quantity will frequently kill without any swelling of the head appearing. Although, later in the season or when they reach maturity, both species lose much of their poisonous quality, under some conditions the spineless form, late in the fall, may put out new shoots in sufficient abundance to make it a source of danger.

In comparing outbreaks that have occurred in different regions and at different times, very marked variations were noticed. The most important of these concerned (1) the proportion of the affected sheep that developed the swellings about the head, and (2) the

plentiful, but as compared to some regions, not abundant, a much larger proportion but not all of the affected sheep have developed the condition that gives the disease its name. As compared to these outbreaks, others have occurred in which the first thing noticed was a swelling of the ears and other parts of the head, and this occurred in practically all the affected sheep. In instances of this kind that have been observed by the writers, green feed has been plentiful, and, aside from the poisonous brush, furnished nearly the entire food supply for the sheep. This observation suggests that the swelling of the head is associated with green

make it possible for the photosensitizing substance to get into the blood is unknown. Nor is it known that in bighead the swelling is brought about in the way described by the South African investigators. However, the evidence which has been obtained so far conforms very well with what they have found in their cases.

Why Sheep Eat the Poisonous Plants

Granted, then, that the poisoning of sheep by coal-oil brush and spineless horsebrush is the cause of the serious losses and is the primary factor in the swelling that occurs in bighead outbreaks, it is of interest to consider why

sheep eat the poisonous plants. In this it is believed that several factors are involved. Within the past two years many herders have observed the sheep under their care eating both species. This was confirmed also by the condition of the plants along the sheep trails. Usually conditions at the time the plants were eaten have been somewhat unusual or at least not ideal for the animals. Following spring snowstorms when other vegetation is covered, sheep are virtually forced to eat the plants that project above the snow or go hungry. In some areas the brush consists almost entirely of the poisonous species. During rainy periods when all vegetation is wet, sheep frequently choose those species that are more easily reached and here again the poison brush is often most convenient. As is well known, bighead outbreaks very commonly begin during or immediately following stormy periods. If at this time the sun shines brightly, conditions are favorable for the swelling of the head to occur. Sheep that are being trailed frequently eat plants they do not ordinarily touch, and many instances of poisoning have occurred at such times. This has been true also when some of the most serious losses from poisoning by cherry, lupines, and other plants have occurred. As is known by those who are acquainted with the ranges in the regions where bighead occurs, many of the principal trails pass through regions where the coal-oil brush or spineless horsebrush occur in great abundance. Along some of these trails sheep are compelled to pass through many such patches of the brush, some of them several miles in extent.

When other feed is abundant or their hunger is not too great, sheep rarely eat any of the coal-oil brush and usually not much of the spineless horsebrush. Unfortunately in places along the trails, the sheep pass for many miles through regions where only a single kind of plant, such as the common or blue sage is present. Blue sage in the spring certainly is not palatable for sheep. If, as frequently occurs, sheep on the trail pass from large areas covered with blue sage into patches of

spineless horsebrush, they may eat it greedily.

A particularly dangerous situation appears to exist around some of the watering places. Near some of these, coal-oil brush is so situated that sheep go directly from water into extensive patches of it. Freshly watered sheep, especially if for two or three days previously they have been driven without water, are inclined to eat whatever is most easily reached. If this happens to be coal-oil brush disastrous results may follow. Several outbreaks, in which many sheep died, have resulted from just these conditions. Obviously, the only remedy is some way of preventing the eating of the poison, either by furnishing an accessory feed or in some way avoiding the area.

Bighead on Grass Ranges

It happens that in some regions, especially on grass ranges where feed appeared to be abundant, very heavy losses from bighead have occurred,

Although one or perhaps both kinds of the poison brush have been abundant, at first observation there seemed to be no good reason why the sheep should eat them. It appears probable that this was due to the peculiar desire of sheep for a variety in their feed. Sheep on a pure grass diet may appear to do well but their appetite is not fully satisfied. Such conditions in several regions have led sheep to eat other poisonous plants in sufficient abundance to kill them and the same result appears to follow when on a grass range coal-oil brush or spineless horsebrush offers the only variety. In a number of instances when bands of sheep were held on ranges of this kind, many of the animals, during the course of several days, have become affected. It seems possible that in such places beneficial results might be obtained by furnishing the sheep with some palatable feed so they could vary their diet without resorting to the poisonous plants.

Raising Lambs by Use of Foster Mothers Is Successful

**By John A. Stoehr, Assistant Animal Husbandman,
Bureau of Animal Industry, U. S. Department
of Agriculture**

IT is considered good practice among sheepmen who use the shed system of lambing to attempt to save lambs that have been orphaned or disowned, by transferring the lamb to a ewe that has lost her lamb. This procedure is commonly called "grafting," and requires very little time or patience if the lamb is vigorous and the new mother has sufficient milk to raise it.

Records are kept at the U. S. Sheep Experiment Station located near Du-

bois, Idaho, of the date of birth, sex, birth weight and dam of every live lamb born. A record of every lamb "grafted," together with its weaned weight, is kept and this constitutes an accurate means of determining the number and weight of lambs saved by the use of foster mothers.

The methods used at this station to "graft" an orphan or disowned lamb on a ewe that has lost her own lamb vary according to the individual case.

Comparison of Lambs Transferred To Foster Mothers With All Lambs Raised, 1931-1935

Year	No. Ewes Bred	ALL LAMBS WEANED		No. Lambs 'Grafted'	No. 'Grafted' Lambs Weaned	Av. Wt. 'Grafted' Lambs
	No.	Average Weight				
1931	1817	1696	68.69	49	44	68.00
1932	1721	1497	76.00	59	45	74.00
1933	1712	1570	71.43	60	56	69.02
1934	1646	1294	69.30	79	64	65.78
1935	1608	1579	77.18	75	64	76.69
TOTALS	8504	7636	72.54	322	273	70.71

In some instances all that is required is to spread a little of the ewe's milk on the lamb's head and rump. In other cases a ewe that has lost her lamb at birth will claim another lamb if the lamb is rubbed thoroughly with the dead lamb or after-birth. If a lamb is several days old before it dies, its pelt, put on the lamb to be claimed, is usually sufficient to make the ewe own it. Care should be taken to have the rear part of the pelt entire, and the pelt should not be removed until the ewe has become accustomed to the changing odor of the lamb. In all cases the ewe and lamb should be kept separate from other sheep in a claiming pen, until the ewe claims the lamb, and the lamb recognizes the scent and bleat of its new mother.

From the previously mentioned

records, the accompanying table has been compiled, covering the years 1931 to 1935, inclusive, giving the number of lambs "grafted," the number of "grafted" lambs weaned, and their average weaned weight. Also, for comparative purposes, there is included in the table the number of ewes bred, the total number of lambs weaned and their average weight at weaning.

The average weaned weights of the "grafted" lambs is slightly less than that for all lambs weaned, and is considerably less than that of all single lambs. "Grafted" lambs constituted 3.58 per cent of all lambs weaned. During the five-year period 19,305 pounds more of lambs was realized due to the practice of saving disowned or orphaned lambs by use of foster mothers.

Discussion of Wool Marketing Affairs at National Convention

NEW and old topics connected with the marketing of the western wool clip were considered in an informal discussion following the presentation of general market conditions (February Wool Grower, page 31) by Mr. C. J. Fawcett, general manager of the National Wool Marketing Corporation, on the third day of the National Convention at Albuquerque in January. The reporter's transcript of part of that discussion is given here.

Mr. Charles Redd, president of the National Wool Marketing Corporation, presided at this section of the convention.

Mr. Redd: There have been a few questions asked around the convention hall about wool marketing and it is suggested that we try and have them answered; that is our business, to try to find the answers to the questions you have about marketing wool.

Mr. Long: I would like to have you explain what effect the contracting of wool on the sheep's back and turning such contracts on a small margin, has on the present and future markets.

Mr. Redd: That question was raised yesterday in the wool marketing committee. Some felt the early contracting of wool on the sheep's back and turning that contract immediately to the mill had a tendency to fix the price level, perhaps, without regard

to all the factors that entered into marketing. C. J., what do you have to say about it? We have some dealers here, we want them to help us out, and take part in this discussion.

Mr. Fawcett: We want all you folks to help us discuss these matters. It is a pretty difficult assignment. I know of no better way to answer the question than to cite what happened this last season. In April the market was about 90 cents and when the weight of the wool came on the market in July it sunk to about 83 cents. When I say this, I am not criticizing the dealers in any way. They are all business men and without them you would have no substantial market for your wool, because it is the duty of the wool dealer and your selling agents to supply a large portion of that 125 million dollars that is required to lift your clip in two months' time. There must be some intermediate agency to perform that service, and the dealers have in the past and are at the present time performing a large portion of that service. But they as business men are not particularly interested in maintaining the market; they are interested in selling as quickly as they can, and reinvesting their money. I think these early contracts, to that extent, do have a vital bearing on the market.

To prove that, I might mention that early contracts are being offered quite freely, I understand, and many of them have passed to the manufacturer. May I ask your indulgence just a minute. We will suppose that wool has been contracted on a 65 per cent shrinkage, which we will say was the

approximate shrinkage of last year, but by reason of this excessive snow we are having, suppose the wool shrinks 62. That advantage is passed on to the manufacturer on a contract sale of that type; the dealer doesn't get it; you don't get it; the manufacturer gets it. Therefore, I believe if your selling agency has to engage in a transaction like that it should be on a shrinkage basis. Last year we sold quite a lot of wool direct; it was on a clean-basis value, shrinkage to be agreed upon, and I believe in 40 per cent of the cases we were able to get by with less shrinkage than we estimated when the wool was coming in.

The other day I happened to sell wool from a certain state at 50 cents a pound in the grease to a manufacturer. At the same time I sold him wool from another state at 31½ cents, and in my opinion and in his the 31½ cent sale was costing him more per clean pound than the 50 cents in the grease would.

My answer is, yes, early contracts turned at a small margin do have a very vital effect on the market. If these contracts are being turned over at a dollar per clean pound, they have a tendency to establish a market at that figure when the wool is shorn, in my opinion.

Member: In your opinion what effect or influence does the trading in wool top futures have on the market?

Mr. Fawcett: The wool top futures question is something we all ought to give a lot of study to. Not until two or three years ago did you ever hear tell of top futures. It is an effort on the part of the New York Cotton Exchange to furnish the wool manufacturers and wool growers, to be sure, the same service in the way of hedging as is now enjoyed to some extent by the cotton people. After about two years' investigation they found it wasn't possible to trade in greasy wool on the Exchange so they evolved in New York a standard of tops.

I think you understand that top is a product of the comb. First the wool is scoured, then it is carded and then the worsted wool is run through a comb. Those combs are tremendous machines, cost five or ten thousand dollars. They comb out the short and weak fibers of wool intended for worsted manufacture and divide the wool into two parts, "top" and "noil." The latter is the short wool, while the top is the long wool with all its fibers parallel, which constitutes the raw material of the worsted spinners. That is the product they are attempting to trade in on the New York Stock Exchange.

This trading in tops has various ramifications, and to date it hasn't been a valuable factor to the growers, in my opinion. Tremendous pressure has been brought to bear in New York and elsewhere for us to come out here and sell wool futures to you people, shipping your wool to the manufacturer immediately, and buy tops, December tops, against that sale, if that is the

time you want your wool sold. But you cannot do that, it is impractical, it isn't broad enough; in other words, they haven't sufficiently interested the public. With this trading confined to Summer Street, if we all get down in the mouth nobody wants to buy; if we all get excited everybody wants to buy. To date they haven't interested a sufficient number of the scattered public to make the market wide enough, broad enough to permit hedging intelligently. There is one manufacturer down there that could bust that thing open any day he wanted to. We have people in the room that are engaging in trading in futures and apparently it serves a purpose, but so far as the wool grower is concerned I think it has been a detriment.

You notice that today's top market is about \$1.14, quoted, while our spot tops that are being manufactured from your wool and we are now selling would command a price of \$1.32. To date it seems to me that trading in wool futures has been very effective on a down market to bear the market, and always lags behind on an up market for this reason: The manufacturer will come in one day wanting to buy wool or will say to you, see what the top future market is. If he investigated he would probably find that not more than two or three contracts were turned for passage by the owner, that is, transferred from December to January or from January to May. I don't think it can be safely used by the grower as a criterion to either the present market or future trend of the market.

Mr. Sexton: There has been discussion in regard to scouring—whether it is advantageous to growers to have our wool scoured at the concentration points.

President Rich: Mr. Sexton is from Iowa and Iowa produced about 9 million pounds of wool.

Mr. Sexton: Ten million in 1936.

Mr. Fawcett: It seems uneconomical, I know, to pay freight to Boston on around 70 per cent of the weight, or, if it shrinks 60, paying freight clear across the United States on 60 per cent of New Mexico dirt, yet I personally believe it pays to do just that. For what reason? The manufacturer seldom makes his tops, his yarns, or his cloth from just one type of wool. I have been in mills where for a certain yarn they would be spinning nine kinds of wool together. In that art of blending, which we call gauging, they gauge the wool—Canadian wool, and Australian wool and domestic wool, South American wool—together before they scour it. That is necessary to make the proper blend. If you scour that wool out here in Idaho, New Mexico, Colorado, or elsewhere, you deny the manufacturer that privilege of sorting. A few years ago there was a large grower in the West who began communicating with us in the winter, stating he did not propose to pay freight on 60 or 50 per cent of dirt when

a scouring mill was available. He did scour it, did a very good job, and sorted it the best he could. It came to Boston and after it got back there I think he gained enough in weight to pay the freight. But we were forced to sell that direct for \$1.10 where if we had had it in the grease for the worsted manufacturer we could have obtained \$1.20. The mills must take that wool in the grease and blend it with proper blends. I don't think it pays to scour in the West, especially wools going into worsted manufacture. I urge you not to scour them because the manufacturer must sort those according to his prevailing needs. One mill doesn't employ a uniform sorting. For a more technical blend he may mix as much as three or four or five sorts of one fleece, so you cannot sort according to the needs of all manufacturers; in other words, sorting is not a uniform process.

Mr. Redd: Any other questions?

Mr. Hooper: Are there any difficulties connected with the grading of wool in the western part of the country? Is it desirable to grade wool in the West and can those growers' grades carry out when you sell?

Mr. Fawcett: We have had difficulty, I am frank to say, not only with local graders but difficulty with our own graders, graders who have been grading for us for years, in maintaining lines when grading at shearing sheds. When the wool gets to Boston some times they hardly recognize it themselves.

The grading of wool is highly technical and for some cause or another, a grader, left by himself, will frequently go high or low. A sheep doesn't produce wool according to grades; it just produces wool, and grading is a matter of judgment. Some times we can make a grader out of a man in two years, some times never. It is comparatively easy to sort, but difficult to grade. I don't think as a rule we have ever had very good results from grading at country points, at least we do have difficulty in selling the manufacturers wools graded at country points, first, because they are not able to see the wool and handle it, and, second, because they fear it will lack uniformity. Let me repeat a conversation I had with one of the biggest users of wool in the whole country. We were discussing that very fact Mr. Hooper asked about. He said, "C. J., I have adopted the policy that we will pay one cent per greasy pound more for wool right here on Summer Street where we can buy it as we see it, where we can buy the grade we now require, and where it is subject to our examination at the time." So that is the manufacturer's answer to your question—that it doesn't, as a rule, pay.

(Editor's Note: As reported elsewhere in this issue, the Senate Committee on Investigation of Wool Marketing has been asked to make a study of the effect upon growers of transactions in futures on the Wool Top Exchange.)

Uniform State Bounties Suggested

I HAVE just finished reading the February issue of the National Wool Grower, and found "Around the Range Country" particularly interesting. Nearly all of the contributors to that department make some comment on the coyote question. At this time it has ceased to be a question and has become a dilemma.

My father started running sheep here in 1898 and since 1910 I have had my own outfit and in that time I have seen some terrible losses through coyotes.

I am offering the suggestion that all of the western range states go back to the bounty. If all do not have it, too many coyotes are brought over boundary lines into the states that do pay one. A bounty of \$10 a hide, hides to be in good condition and to become the property of the state paying the bounty, would be about right. In most years pelts average better than \$5; this year hides averaged \$11, here, so there would be no bounty to pay, really. Three dollars for pups should be enough, although some people would spare them until winter, and take a chance on getting \$10 for them then. I think most of the hunters would figure that \$3 in the hand was better than the prospects of \$10. This plan will not get all of the coyotes, for I once heard it said that when the last man dies, there will still be coyotes to howl over his grave; but it will get most of them.

Since October 1, 1936, 51 coyotes have been caught on my summer range and 56 on my winter range, all by local people. Most of the local people in this country have some spare time in the winter and nearly all do some trapping when it is worth their while. This is why I believe the bounty system is better than trying to handle the work through the government hunters, although I am sure they are doing the very best they can. They just cannot cover enough territory.

Douglas, Wyoming Roy Combs

Recent Methods in Coyote Control

By Ira N. Gabrielson, Chief, Bureau of Biological Survey

*An Address before the National Wool Growers Association,
January 27, 1937, at Albuquerque, New Mexico*

I AM exceedingly glad to be with you today to discuss problems of mutual interest. I see in the audience numerous old friends whose acquaintance I made during many years' service in the West. My own work for more than fifteen years had to do with problems connected with the livestock industry. The experience gained and the acquaintanceships formed during those years have been invaluable to me in my present work. They have given me an understanding of your problems which has enabled me to realize that they are closely connected and interwoven with the problems confronting the Biological Survey as the wildlife agency of the federal government.

There are two parts of our work which vitally affect your interests—first, the rodent and predatory animal control operations, and, second, the efforts we are making to insure the perpetuation of wildlife species. These are the two subjects which I would like to discuss briefly.

Some of you have felt that in recent years the interest of the Bureau has been absorbed in ducks to the exclusion of the things which concern you. On the other hand for many years the wildlife organizations of this country felt that predatory animal and rodent control filled our thoughts and activities to the exclusion of wildlife interests. It seems to have been a case of you'll "be damned if you do and damned if you don't."

Now what are the facts? It is true that in the last three years the Biological Survey has had much larger funds for wildlife work than ever before and because of this long needed help that part of our program has grown up to rank in importance with other activities of the Bureau.

But it is also true that during the past year we have expended more federal funds on rodent and predatory ani-

mal control work than in any year in the Bureau's history.

For predatory animal control \$340,370 was expended from regular funds and this was supplemented by WPA funds in the states of Idaho, Montana, Oregon, Utah and Wyoming which total about \$100,000. With these allotments the federal government is contributing 31 per cent more money than in any previous year while the cooperating agencies are spending 25 per cent less. But inasmuch as 25 per cent of the total fund furnished by cooperators is an amount larger than the 31 per cent increase of government funds, it actually means that the total amount available for predatory animal control is still somewhat less than in 1931, the peak year in available funds. Despite the small funds the total take of predators, particularly of coyotes, has grown steadily, except in 1934, until in the fiscal year ending June 30, 1936, 73,127 predators were taken; 64,566 of these were coyotes.

Improved Methods

This increase is due to several factors. During the past several years considerable attention has been given by our research laboratory at Denver as well as by the various field men to improving existing control methods. An increasing number of hunters are using methods which prevent rabbits, skunks, and other such small light animals from springing traps and thus decreasing the efficiency of the trap line. Also we are working with trap manufacturers to develop traps that will reduce the number of peg-legged animals. We have constantly improved the technic used in poisoning so that fewer baits are wasted or taken by other than predators. These methods will be constantly improved to make them more selective, less expensive and more certain. Perhaps we shall be able as time goes

by to develop new methods as yet untried. The use of biological control methods has proven highly effective in handling destructive insects, but to date they have never been used for predators and at present we do not even see a possibility for it although they have been used occasionally with some success against rodents. Perhaps some time in the future we may find ways of applying them to predator problems.

Part of the increased take has undoubtedly resulted from the improvements in methods and the use of longer trap lines. There is still another factor which has increased the load on our organization. I refer to the decrease in the price of coyote furs to the point where private trappers can no longer operate long trap lines at a profit. Should the fashions switch so that coyote fur is again in favor with the ladies this part of the picture would change completely—but have you been successful in attempting to persuade a woman that she ought to wear coyote when she thinks she ought to have mink?

We feel that restoration of state and local cooperation to the level reached in 1931 would greatly increase the efficiency of our control work and we believe that if this could be accomplished quickly it would offer the most promising way out. While we have a \$1,000,000 federal authorization, Congress has never seen fit to appropriate the money and the prospects at the present time do not seem bright.

The rodent problem is one with which you are all familiar. Rodents are an important factor in many of the range states and reduction of their numbers is often necessary before range recovery can take place. In cooperation with the various federal land administrative agencies some 12,800,000 acres of rodent infested ranges have been covered by control crews during

the past year. This is in addition to the regular cooperative program with states, counties and individual land owners which covered 19,700,000 additional acres. We feel that the rodent program is in good shape—in fact in better shape than at any previous time. I think it unnecessary to take more of your time with a discussion of this part of the program.

The second phase of the Bureau's work which is of interest to you is the effort to provide for the wildlife species, particularly those found in the range states. A great many wild stories have been afloat regarding this part of the program. Radical eastern conservationists have in the past accused the Bureau of selling out to the livestock groups, and the livestock men, or some of their radical spokesmen, have expressed the fear that the Bureau wanted to put livestock men out of business. Obviously both of these statements cannot be true. As a matter of fact neither of them is true.

Wildlife Protection

The Biological Survey is the wildlife organization of the federal government and we are expected to look out for wildlife interests. We are also charged with the predatory and rodent control work, but I do not regard this latter activity as being a separate, unrelated function, for it is not. It is but a part, a fundamental part, of the whole problem of wildlife administration. Since these operations impinge upon your interests as livestock men you have a right to know the program.

Before starting on this description let me say that we have a large number of western men in our organization—men who are familiar with western problems and we know quite as well as any of you that livestock grazing is the backbone of many western communities. We know that grazing is the only possible economic use that can be made of vast areas of western lands. We are in sympathy with the efforts to handle the grazing of the public domain in such a way as to restore it and we are willing to help with that program in any possible way.

We also realize, perhaps more keen-

ly than some of you, that there are scores of places in the West where stocks of deer, antelope, sage hens and other forms of wildlife exist only because of the personal interest of individual stockmen or groups of stockmen. Many of these men have expended their own time and money to protect these nucleus herds. Such men deserve commendation, not condemnation, for their generous interest in wildlife.

The Biological Survey is committed to a program for developing a system of wildlife refuges which will, so far as is possible, insure the perpetuation of the flights of migratory waterfowl. It will also provide homes for each of our major species of wildlife within its natural habitat. This might mean a single large herd of a single species, like the bison for example, but we prefer in practice to scatter the animals into several groups to lessen the danger of disease or the effect of some major local catastrophe. Naturally these refuges will be used first for the purpose for which they are created but after that it is our hope to fit them into the community needs. They may provide recreation spots, hay, grazing, or other things of value to the community in which they are located.

In addition there has been proposed a series of big game ranges to provide for a limited number of game animals. These are to be jointly administered by the grazing division of the Interior Department and the Biological Survey. Some of these have already been established. On these areas grazing will be handled by the grazing districts though always reserving for the wild animals a sufficient quantity of feed. The establishment of these areas is criticized both by the radical conservationists and the stockmen. We welcome, however, any opportunity to work out with the stockmen a sane program for the management of both game and livestock. We believe that with the recovery of the western range there will be plenty of room for both livestock and game. We also realize very clearly that big game cannot be allowed to increase indefinitely. Browsing and grazing animals, such as deer, antelope, and elk,

can literally eat themselves into starvation as surely as domestic stock can increase beyond the carrying capacity of either pasture or range.

We hope to work with you on these problems to our mutual advantage. My experience in dealing with you in the past makes me exceedingly optimistic of the outcome.

There is one big factor that will work against the success of any program such as these proposed game ranges or the general wildlife program being developed in cooperation with livestock interests in Oregon and New Mexico. I refer to wild and misleading statements that may be made by persons claiming to represent either the wildlife groups or the livestock interests. Statements made against the livestock interests cause suspicion and resentment on your part. On the other hand, the most radical statements made by any stockraiser will be circulated in the eastern states as being representative of the real attitude of the stockmen. The reported slaughter of 30 to 40 elk by livestock men in Utah, to use a concrete example, has gone a long way to destroy the understanding of livestock problems which was being slowly built up in the East.

So far as the Biological Survey is concerned we welcome an opportunity to join with you to work out mutual problems in full confidence that the results will be satisfactory.

Severe Winter in Idaho

THIS has been one of the hardest winters we have had for many years. There have been deep snows and much cold weather, although it has warmed up the last few days. Our feed bill will keep us from having any profit on the year's operations.

We are just about through lambing (March 7), but most of the outfits are just getting started. Our lambs are strong and doing well. The percentage of lambs will be below average and the loss in old sheep has been heavy up to the present time.

Malad, Idaho

Frank Clark



Chefs of leading hotels, restaurants, and clubs of Chicago, at a conference with F. R. Marshall, secretary of the National Wool Growers Association, and Harry W. Farr, past president of the Colorado-Nebraska Lamb Feeders Association, pledged their full support to the lamb campaign by featuring lamb dishes on their menus. Left to right are: Max O. Cullen, merchandising specialist, National Live Stock and Meat Board; Pierre J. Berard, chef, Drake Hotel; Fiore Napolitan, chef, Stevens Hotel; Mr. Marshall; Adolph Rigert, chef, Old Heidelberg Restaurant; Otto W. Johannesson, chef, Atlantic Hotel; and Mr. Farr.

The Mid-Winter Lamb Sale

Tabulations of increases in purchases of lamb during the intensive, nation-wide lamb sale, conducted from January 21, 1937, through the month of February, by chain stores, independent meat and grocery shops, packers and others interested in the industry, were not complete by the time this month's issue of the Wool Grower went to press. They should be available for appearance in the April number.

The following article, prepared by Mr. Redman B. Davis, Director of the Department of Publication of the National Live Stock and Meat Board, presents the work of that agency during the campaign.

NATION-WIDE attention is being directed to the drive for lamb as the result of the Mid-Winter Lamb Sale inaugurated the week of January 18 by retail outlets from coast to coast.

The campaign is sponsored by the Colorado-Nebraska Lamb Feeders Association and the National Wool Growers Association to help stimulate lamb prices which were out of line with production costs. Many interests are backing the campaign. Lamb feed-

ers' associations, wool growers' associations and sheep breeders' associations from coast to coast are cooperating in every possible way.

Livestock marketing agencies, including the livestock exchanges, producers' commission agencies and Farmers Union commission houses, are behind the effort. Retailers, colleges and universities and the U. S. Department of Agriculture are giving their full support. The nation's press, including dailies and weeklies, sheep publications, meat and grocery trade papers, market and farm papers and news syndicates, is cooperating.

The National Association of Food Chains is taking an active lead through 39,000 chain store markets which are visited daily by more than ten million customers. The National Association of Retail Meat Dealers has stressed the need of getting lamb to retailer members in 300 leading cities. The National Association of Retail Grocers with 152,000 members has been cooperating in the campaign since its incep-

tion. Ninety-two per cent of these stores sell meat.

Lamb is being featured by these retail outlets in various ways. Thousands of columns of lamb advertising have been placed in daily and weekly newspapers through chain stores alone. Interior and window displays of lamb cuts have directed attention to lamb. Lamb posters, lamb streamers, lamb circulars and other promotional materials are being efficiently utilized through all retail outlets. Lamb is also being kept in the minds of consumers throughout the country through personal contacts with the men in the retail stores.

Board Supplying Lamb Material

Upon the request of the various interests the National Live Stock and Meat Board is furnishing the ammunition for the campaign and is correlating the many different activities. Suggested lamb advertising and lamb promotional material have gone out regularly to the National Association of

Food Chains, the National Association of Retail Meat Dealers and the National Association of Retail Grocers.

The material has included such advertising helps as: Illustrations of lamb cuts; a new chart showing lamb cuts and how to cook them; two lamb recipe books—"Delicious Lamb Dishes" and "Let's Have Lamb"; the lamb selling manual; food combinations with lamb; pricing retail lamb cuts; menus with lamb and lamb recipes; broadside on selling heavy lamb; statements about lamb; newspaper food stories on lamb; daily lamb radio announcements; and facts on lamb selection and lamb cookery.

Fifty thousand sets of posters and colored window streamers have gone forward to retail markets in all sections of the country for display in windows. This material tells how to push lamb sales. It stresses the food value of lamb. It calls attention to the value of such appetizing dishes as leg of lamb, lamb patties, lamb for stew, etc. Effective distribution of the posters and streamers has been made through salesmen.

Packing Industry Pushes Lamb

The packers have been active. Packer salesmen have been giving the campaign every attention. Their contacts with the retail trade afford an exceptional opportunity to push lamb.

Lamb advertising material, such as advertising mast-heads, lay-outs for lamb ads, suggestions for lamb posters, pennants and streamers, has been supplied by the Institute of American Meat Packers. It has gone to chain stores, independent meat dealers and grocers and is providing the desired punch for advertising and displaying lamb.

Railroads Behind Lamb Drive

Railroads are pushing lamb. As in past campaigns they are using special lamb stickers on their dining-car menus. These stickers are illustrated and in colors and carry the statement "The Epicure Suggests Lamb. It's Delicious."

The desire of the railroads to cooperate is brought out in the follow-

ing extracts from letters received by the National Live Stock and Meat Board:

We will be glad to renew participation in the lamb advertising campaign. Send us 5,000 stickers.

We will be very glad to cooperate as in past years by placing the lamb stickers on our menus. Send us 3,000 stickers.

Please send a supply of 5,000 new lamb menu stickers to be affixed to our menu cards.



The lamb poster and six streamers shown above have been placed in 50,000 retail meat markets across the country for window and shop display. Distribution was made by packer salesmen. The poster and streamers are printed in attractive colors.

While we regularly carry and serve lamb on our dining-car and cafe cars, we shall be more than glad to especially feature it during the months mentioned.

We have in the past given lamb a prominent place in our menus and shall again be glad to do so in a desire to be helpful to your program.

Lamb in the Nation's Press

The cooperation of the press of the nation in the drive for lamb is outstanding. To date, more than 800 publications in 47 states have carried over 1,000 full newspaper columns of articles and pictures on lamb. These publications include daily and weekly papers, market papers, journals of the packing industry and meat trade, and hotel and restaurant publications.

A new lamb chart produced by the Board, showing wholesale and retail cuts, has appeared in 900 newspapers across the country.

Illustrations of attractive lamb dishes with articles on how to prepare them are being used by metropolitan dailies on their food pages. The smaller dailies and weeklies have also featured this material.

Information relative to lamb is being supplied to the newspapers through animal husbandmen in various agri-

cultural colleges. These college men release lamb stories to papers in their state. This cooperation assures a wider scope for this material than would otherwise be possible.

Lamb Stressed on the Radio

Radio plays a very important part in the lamb campaign. Through the cooperation of individual radio sta-

tions and radio chains, housewives across the country are being informed about lamb and its important place in the diet. Talks given cover phases of the lamb industry, methods of preparing lamb, and its food value.

Two lamb talks prepared by the Board were broadcast on the Farm and Home Hour of the National Broadcasting Company. They went out over 55 stations.

Timely facts relative to lamb were broadcast over the Affiliated Broadcasting Company net-work of 18 stations.

Material prepared in popular form for the radio has been sent to the nation's 604 radio stations, including 83 stations which make regular use of the Board's talks.

The cooperation of three Chicago stations—WLS, WAAF, and WCFL—has made it possible to reach thousands of listeners with the story of lamb.

College men also are cooperating in the radio program. Members of the animal husbandry staffs of agricultural colleges are making use of material supplied by the Board. To date it has been used on radio stations of 15 states.

Special material for lamb broadcasts was prepared and forwarded to 40 different sheep organizations, including record associations and sectional and state lamb associations.

The home service directors of public utilities companies in 350 cities, with whom the Board works closely, were supplied with radio material on lamb.

Short radio announcements on lamb were sent livestock exchanges, producer commission agencies and Farmers Union commission houses.

Home Economists Given Lamb Facts

A better knowledge of lamb is being brought to home economists and teachers throughout the country during the current campaign. The latest authentic facts on lamb were sent by the Board to a key list of 14,800 women of these professions during January. All phases of the subject of lamb were covered in this material. Especial attention was given to "Lamb Cuts and Their Uses." Pointers on identification of the various lamb cuts were given as well as suggestions for preparing these cuts.

Lamb Featured in Board's Programs

Since the beginning of the campaign, the Board has directed especial attention toward lamb in its cooking schools and meat merchandising programs. These activities make it possible to keep lamb and other meats continually before the public.

The Board recognizes the fact that the American housewife is a very important point of contact, if the consumption of lamb is to be increased. She has an annual food budget of more than seven billions of dollars.

If lamb is to be given its proper place in the housewife's food budget, she must know all about this meat. In the past, the housewife has not been so well acquainted with the place of lamb in the diet as she should be. In many cases lamb has been regarded simply as a seasonal meat, available mainly in the spring of the year. The proper methods of preparing lamb for the table have not been generally known in the homes of the nation.

Campaign Results Are Encouraging

There seems little question that the nation-wide attention being given to lamb and the cooperation of a wide variety of interests, have been bringing results. Lamb receipts at the leading markets have been running ahead of last year but the price trend has been upward.

The following paragraph from a letter received by the Board from John A. Logan, executive vice president of the National Association of Food Chains, shows the optimism of one who has been active in the drive since its beginning:

It is true that the flood conditions have retarded sales in some important areas, but in spite of this set-back in flood territory, sales have been showing remarkable increases in other areas. It is especially interesting to note that we are getting very good results in virgin territory where there has previously been a very small demand for lamb. This accomplishment appears to hold possibilities for improved long-time sales, as well as increases during the period of the special campaign.

The Odds Against the Lamb Feeder

THIS morning (February 20) I called on a lamb feeder who put in three doubles of extra-small stuff early in October and now after four months and more of alfalfa, silage, shelled corn and molasses feed, these lambs would hardly have the size that many feeders want when the stuff comes off the cars. These three doubles counted pretty close to thirteen hundred lambs, direct from the sorting chutes of northwestern range country. This man will shear late and will be the last feeder to kick the lamb into the last car at this stop on the line.

A man I visited yesterday with his two hired hands was hammering together more pine feed racks with tight bottoms.

It is muddy as all getout around here and hardly a dry straw or corn stalk can be found underfoot in either yards or barn. The first man mentioned is shuttling his truck to the elevator already for corn to patch out

his vanishing supply and the trucks of a hay trader have been punching the bottom out of the drive to his place delivering baled hay.

The man making feed racks had spent the morning with his two men getting loose hay, a seven-mile haul with an ordinary wagon followed by a rubber-tired trailer, both towed by a tractor on rubber—which is the only kind of tractor allowed on the roads. The authorities have already posted all roads with "load limits."

One feeder who started out with 1450 lambs has sold 1000 and replaced them with beet-pulp lambs that needed more finish, and at this late date is on the trader's books to get still another double of these lambs from the sugar beet country of the Northwest. He says these lambs have gone on grain feed almost at once with practically no loss. Some of the toppest of these late arrivals have not stayed in his lots long, having been used to throw against extra-heavy lambs he was clearing. The order buyers come right to the barns and do the blending themselves.

Nevertheless, the price paid for these part-fed beet pulp lambs looked amply high to a hardbilled hedger like me—and of course there would be about all the shrink on the stuff that would keep everybody in fair humor. Several years ago this same feeder told me on a fairly good year that he was getting back some of the money he had lost—and that idea he aimed to convey to me as an explanation for the buttons he was busting off his clothes and the height of the mud and lamb excrement on his rubber boots and other things like that about the place.

From the Rocky Mountains lamb finishing in the East may look like a fancy way to make money and have the sage country man's bet gloriously covered—but to a casual easy-going feller like me just across the road or living down the pike, the stuff might be compared to an 'ell of a quid and cheekful of sumpin like straight "Perique" terbaccer. But of course if a man takes to a strong chew and likes a strong chew, Perique otta suit him! Radnor, Ohio G. P. Williams

Breeding and Lambing Rate—Length of Gestation Period of Range Ewes

By D. W. Chittenden and A. H. Walker,

Department of Animal Husbandry, Montana Agricultural Experiment Station, Bozeman, Montana

THE breeding and lambing records of 1472 grade Rambouillet ewes were kept during the years 1934-35 and 1935-36 for a study on the rate of breeding and lambing and the length of gestation period of range ewes, and for determining what influence, if any, the breed of rams used might have on the points in question.

The procedure followed called for a division of the herd into two uniform groups at the beginning of the breeding season. One group was bred to Hampshire rams, the other to Rambouillet rams. The rams were painted on the breast when turned with the ewes, were herded with them during the day and corralled with them at night. At daylight each group was run through a sorting chute, the ear-tag number of each ewe that had been bred during the 24-hour period recorded, the rams separated from the ewes, fed grain, painted and turned back on the range with their respective groups.

The rams were run with the ewes for 30 days each season. Approximately 2.5 rams per one hundred ewes were used. Complete data are available for 672 ewes bred to Hampshire rams and 800 ewes bred to Rambouillet rams.

Data on the number of ewes bred during the season and the distribution of breeding by 7-day periods are presented in Table I.

The data show that during the first week of the breeding season 48.30 per cent of the ewes had been bred and 34.38 per cent during the second week, a total of 82.68 per cent for the first half of the season and 17.32 per cent for the last half. The data above show that the rate of breeding was more rapid in the group of ewes bred to the Hampshire rams, approximately 11 per cent more being bred during the first seven days of the season, approximately the same per cent during the second 7-day period and approximately 10 per cent less during the last half of the breeding season. The peak of the breeding season is the first seven days.

Data on the rate of lambing and distribution of lambing by 7-day periods are presented in Table II.

25 per cent during the third and 7 per cent during the fourth. The ewes bred to Hampshire rams lambed at a more rapid rate than ewes bred to Rambouillet rams, although the difference was not as marked as in the case of rate of breeding. During the first week of lambing, approximately 4.5 per cent more ewes bred to Hampshire rams had lambed, during the second week about 1.5 per cent more, during the third week 2 per cent less, and the fourth week approximately 3 per cent less. The peak of lambing came in the second week, while the peak of breeding came in the first week.

In addition to the studies on rate of breeding and lambing, the length of gestation period of range ewes was included in the investigation.

Table II

RATE OF LAMBING OF GRADE RAMBOUILLET EWES						
PERIOD OF LAMBING	ALL EWES		BRED TO			
	Number	Per Cent	HAMPSHIRE RAMS		RAMBOUILLET RAMS	
			Number	Per Cent	Number	Per Cent
1- 7 (days)	399	27.11	199	29.61	200	25.00
8-14 "	612	41.58	285	42.41	327	40.88
15-21 "	347	23.57	151	22.47	196	24.50
22-28 "	98	6.66	33	4.92	65	8.12
29-35 "	16	1.09	4	.60	12	1.50
TOTAL	1,472		672		800	

The data show that approximately 25 per cent of all the lambs are dropped during the first week of lambing, 40 per cent during the second week,

The data covering this study are presented in Table III and include all ewes whose gestation period varies from 143 to 157 days. There were a few cases where shorter and longer gestation periods than those presented were noted but circumstances involving these cases indicated that they best be eliminated from the study.

The data show that the gestation period for 18.55 per cent of all the ewes was from 143 to 147 days; 69.63 per cent from 148 to 152 days and 11.81 per cent from 153 to 157 days,

Table I

RATE OF BREEDING OF GRADE RAMBOUILLET EWES*						
PERIOD OF BREEDING	ALL EWES		BRED TO			
	Number	Per Cent	HAMPSHIRE RAMS		RAMBOUILLET RAMS	
			Number	Per Cent	Number	Per Cent
1- 7 (days)	711	48.30	365	54.32	346	43.25
8-14 "	506	34.38	227	33.78	279	34.88
15-21 "	188	12.77	65	9.67	123	15.38
22-28 "	67	4.55	15	2.23	52	6.50
TOTAL	1,472		672		800	

*In case ewes were bred the second time, their first breeding record was not included in the study.

Table III

LENGTH OF GESTATION OF GRADE RAMBOUILLET EWES						
LENGTH OF GESTATION PERIOD	ALL EWES		BRED TO			
	Number	Per Cent	HAMPSHIRE RAMS		RAMBOUILLET RAMS	
			Number	Per Cent	Number	Per Cent
143 (days)	12	.82	5	.74	7	.88
144 "	22	1.49	14	2.08	8	1.00
145 "	48	3.26	27	4.02	21	2.62
146 "	68	4.62	51	7.59	17	2.12
147 "	123	8.36	91	13.54	32	4.00
148 "	187	12.70	138	20.54	49	6.12
149 "	231	15.69	134	19.94	97	12.12
150 "	222	15.08	102	15.18	120	15.00
151 "	252	17.12	58	8.63	194	24.25
152 "	133	9.04	27	4.02	106	13.25
153 "	95	6.45	14	2.08	81	10.12
154 "	45	3.06	5	.74	40	5.00
155 "	17	1.15	2	.30	15	1.88
156 "	14	.95	4	.60	10	1.25
157 "	3	.20			3	.38
TOTAL	1,472		672		800	
Ave. Gestations:	149.64 days		148.61 days		150.51 days	

with an average for the entire group of 149.64 days.

The gestation period for 27.97 per cent of the ewes bred to Hampshire rams was 143 to 147 days; 68.31 per cent from 148 to 152 days and 3.72 per cent from 153 to 157 days. The average gestation period for this group was 148.61 days.

The gestation period for 10.62 per cent of the ewes bred to Rambouillet rams was from 143 to 147 days; 70.74 per cent from 148 to 152 days and 18.63 per cent from 153 to 157 days with an average for the group of 150.51 days.

The average length of gestation period was approximately two days less for the ewes bred to Hampshires compared to the ewes bred to Rambouillets.

For the 1472 ewes bred, the greatest number, 252 or 17.12 per cent, had a gestation period of 151 days. Of the 672 ewes bred to Hampshire rams the greatest number, 138 or 20.54 per cent, had a gestation period of 148 days and for the ewes bred to Rambouillet rams the greatest number, 194 or 24.25 per cent had a gestation period of 151 days.

Conclusions

The rate of breeding of range ewes is greatest during the first week of the breeding season, followed in order by the second, third and fourth weeks.

Range ewes bred to Hampshire rams breed at a more rapid rate than when bred to Rambouillet rams.

The rate of lambing of range ewes is greatest during the second week of the lambing season, followed in order by the first, third, and fourth week.

The gestation period for range ewes averages 149.64 days. Range ewes bred to Hampshire rams have approximately a 2-day shorter gestation period (148.61 days as compared to 150.51 days) than range ewes bred to Rambouillet rams.

This study indicates the breed of ram has an influence on the length of gestation period.

Western Meat Drive

AN intensive special drive in the interest of meat is now under way in five of the far western states in which livestock production is a paramount industry. The campaign is featuring the latest methods in the merchandising of steaks, chops and roasts and their preparation for the table.

Centered in 16 cities of California, Washington, Oregon, Arizona and Utah, the campaign was launched in Los Angeles on March 8 and will continue without interruption until April 9. Made possible through the cooperation of livestock associations, retailer groups, the Institute of American Meat Packers, the newspapers and various civic interests, with the National Live Stock and Meat Board, this intensive program will reach thousands of persons with up-to-the-minute facts con-

cerning meat and stress its importance in the diet.

Davenport R. Phelps, western representative of the National Live Stock and Meat Board, is in charge of arrangements for the campaign. Mr. Phelps announces the following schedule:

Los Angeles, Calif., March 8-12; Long Beach, Calif., March 9; Hollywood, Calif., March 10; Oakland, Calif., March 11 and 16-19; Modesto, Calif., March 12; San Diego, Calif., March 15-19; Phoenix, Ariz., March 17-18; San Jose, Calif., March 19; Fresno, Calif., March 22; San Francisco, Calif., March 23; Sacramento, Calif., March 24; Corvallis, Ore., March 25-28; Portland, Ore., March 30-April 3; Spokane, Wash., March 31; Seattle, Wash., April 1; Salt Lake City, Utah, April 5-9; Ogden, Utah, April 8-9.

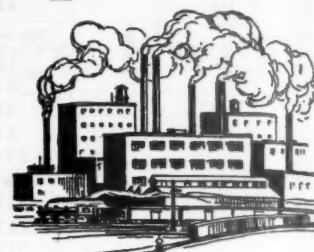
Meat merchandising lecture-demonstrations, featuring the 1937 models in meat cuts and emphasizing methods for "stepping up" meat sales, will be conducted in every city. Five cities have been selected for schools of meat cookery—Los Angeles, Oakland, San Diego, Portland and Salt Lake City. Paul A. Goeser, specialist of the Board, will conduct the merchandising phase of the campaign. Miss Ruth Chamber and Miss Emily Conklin will conduct the cooking schools.

The Board states that the merchandising demonstrations will not only reach retailers but also will be presented before audiences of homemakers, students, teachers, dietitians, hotel and restaurant chefs and stewards, Rotary, Kiwanis and other service clubs, etc. Points to be stressed will include the use of the less-demanded cuts of meat, meat buying and selection, and the new developments in meat cookery. The popularity of these demonstrations is evidenced by the fact that during the first six weeks of 1937, demonstrations held in 26 cities of 13 states were attended by over 53,000 persons.

The Board's cooking school lecturers come to the far West after a series of schools in other states which have been marked by a tremendous interest on the part of housewives everywhere. Nearly 100,000 women were registered at schools held between January 1 and February 15, 1937.

National Wool Marketing Corporation

News Bulletin



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GROWER OWNED AND OPERATED

THE month of February has been featured by heavy importations of foreign wool, principally from Australia. Probably around 85,000,000 pounds of apparel wool has been imported since January 1, about 51,000,000 pounds of which has been landed at Boston. This abnormal volume of imports is due in part to the longshoremen's strike that, in effect, prevented considerable foreign wool from landing in the last two months of 1936 that otherwise would have gone immediately into consumption.

It will be remembered that due to an acute shortage of domestic wool, with practically no foreign wool available, the National was able to secure prices considerably above foreign importing parity during practically all of November, December, and up to January 15. It was during this period that the National Wool Marketing Corporation sold about 80 per cent of its holdings.

February may, therefore, be considered as an adjustment period. Insufficient domestic wool has been sold to make a quotable market. Manufacturers, for the most part, have confined their purchases to foreign wool which was evidently contracted many weeks ago but was not heretofore available for use due to the longshoremen's strike. The small amount of domestic wool required for piecing out, or for the purpose of maintaining domestic blends required by existing contracts, still commands values above comparable Australian wools now available in this market. It is, however, in the late purchases of early shorn wool, principally in Arizona, where the market weakness is most apparent. A striking example of the uncertainty of market levels was illustrated in a recent sale of an early shorn Arizona clip. It was reported two bids were made above 35 cents to the grower and that the clip was sold at 35 cents plus. Five other bids on the same clip made at the same time ranged from 29 cents to 32 cents. Since that time, equally desirable wool has been sold at around 29 cents, or a little above, to the grower, and an interesting feature is the report that a high bidder in the first sale was one of the lowest bidders on the last sale quoted, all of which goes to prove that the present market is tending toward lower levels. Late sales of Arizona wool appear to be on a basis of about 90 cents to 93 cents clean, landed Boston, for similar wools that were commanding \$1.05 to \$1.08 in January. The willingness of growers to accept such drastic reductions seems

to have been a surprise to all concerned and has encouraged dealers to the point where a few offerings have been made of good territory and Texas fine and fine medium wool for July delivery at 90 cents clean, for wools that were sold in January at about \$1.08 by the National. This means that those who offer this wool have faith that they will be able to break the market when the bulk of the 1937 clip is pressing for sale, or that they have hedged on the New York Top Exchange in such a manner as to protect them against the loss. In either event the result is the same. The manufacturer knows his cost will not be greater than 90 cents clean, whereas he was paying \$1.05 to \$1.08 for the same quality of wool a few weeks ago.

It is quite certain that contracts made for wool on the sheep's back in the majority of cases cannot be sold at 90 cents to 93 cents clean, delivered Boston, and yield a profit to the owner. It is equally certain that in many cases it would reflect a distinct loss. It is believed, however, that holders of these contracts that were made on substantially higher levels than exist today feel that wool is still good property and are content to await the time when the foreign wools are less of a factor in determining the market than at the present time. Keen competition for wool the world over will result in early closing of Australian auctions. It is now predicted that Australian sales will be completed by the last of April. Purchases of foreign wools thereafter will have to be made from the secondary markets at London and elsewhere where a profit will be added. Another clip of foreign wool from the Southern Hemisphere will not be available until late in this year.

This brings us up to the extremely important factor, namely, that of the 51,000,000 pounds of apparel wool landed in Boston since January 1, 32,000,000 pounds has already been taken out of bond, which indicates it is going into immediate consumption. Of the 25,000,000 pounds of Australian wool landed in Boston since the first of January, 18,250,000 pounds has already been taken out of bond and the duty paid. Consumption of approximately 70,000,000 pounds of wool in December was the heaviest for many, many years. By comparing the above figures, it will be seen that, perhaps, less than a month's supply of foreign wool is held in bond.

In summing up the situation, the majority of factors indicate that consumption has overtaken the supply of wool all over the world, and particularly is this the case in domestic wool, all of which would seem to augur for stronger values later in the season. In short, it is too much to expect

Summer Street to provide in excess of \$110,000,000 in two months' time that will be required to lift the 1937 domestic wool clip. The National Wool Marketing Corporation is adequately financed, and it is for the purpose of marketing the domestic wool clip in an orderly manner throughout the year that the National came into being.

Boston—The Nation's Wool Market

ABOUT 80 per cent of the wool produced in this country, and an even higher percentage of the wool we import, is marketed in the wool district on Summer Street, Boston. The explanation lies in the large percentage of the nation's woolen and worsted manufacturers which are located within a radius of a few hundred miles of this city.

Since Revolutionary days, Boston has retained its position as the nation's

wool market because of its many natural and economic advantages.

The climate is admirably suited to the manufacturing processes through which raw wool must pass. Also, most territory wool shipped to Boston retains its moisture and gains in weight, which is an important factor from the producer's point of view.

Boston is a natural concentration point for raw wool, not only because so many manufacturers and topmakers are located within a small radius, but

because the requirements of these manufacturers and topmakers vary to such an extent that they are forced to depend upon their own sorting and blending of both the original bag and graded domestic wool which they purchase. This situation is brought about by the fact that no practical use of exact standards of classification has been possible in this country.

(This is the sixth of a series of articles on the "Marketing of Your Wool" written by the NATIONAL WOOL MARKETING CORPORATION.)



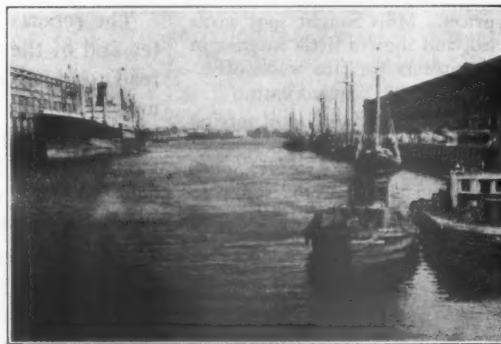
Looking down Summer Street. The National Wool Marketing Corporation occupies the second of the four buildings on the left. (Note the truck with bales of foreign wool.)



The National's principal warehouse, taken at a distance, showing the Neponset River and mud flats running along one side of it.



The Army Base, a little farther out on Summer Street, which is temporarily being used because of the large shipments of foreign wool arriving in Boston.



Between two piers in Boston harbor. Freighters unloading wool on the left. Schooners unloading fish on the right, at Boston's famous Fish Pier which is the largest of its kind in the world and is run on a cooperative basis.

The Boston Wool Market Review

THE following review of the Boston Wool Market was issued by the Bureau of Agricultural Economics for the week ending March 5:

Domestic wools, held in the Boston market, were mostly very quiet. In the absence of trading in sizable quantities of wool, quotations were largely nominal, and, for the most part, represented prices that owners were willing to accept. Wide differences of opinion prevailed as to actual market status. Some holders were willing to make substantial concessions from prices they were able to secure a month ago, while others refused to materially change their views of what their wools were worth. The irregularity in the price situation has been caused by the lack of interest from mills.

Fine Delaine and staple combing half blood Ohio fleeces were quite firmly held at steady quotations. Small lots of other types of fleeces of these grades were moved at easier prices. Quotations on the medium Ohio fleeces eased as country lots of similar bright fleeces, held in the Middle West, became available at prices below levels recently quoted on spot wools. There were a few sales of very moderate volume of medium grade fleeces other than Ohio wools at scoured basis prices that represented a distinct decline from recent peak prices.

Graded spot territory wools were very quiet and holders were unwilling to make any more than very moderate concessions from asking prices that were close to the highest prices received since the first of the year. Ungraded fine territory wools showed considerable irregularity. Small quantities of original bag bulk short French combing length fine territory wools were moved at around \$1 scoured basis. Asking prices on average to good French combing length fine territory wools in original bags were around \$1.03-1.05 scoured basis for fair-sized lots, while odd lots of small weights were occasionally available at irregularly lower prices. Mills bought spot wools only as needed, and showed little interest in pre-shearing contracts for fine wools offered at 91 cents to \$1.02, scoured basis.

Demand was very dull on spot foreign wools, and quotations showed little change. Australian Merino wools were steady. South American crossbred wools were steady to slightly easier. Prices in Australia were reported firm to slightly higher, with America taking some wools.

Prices of sorted mohair in Boston made advances as the result of an increase in demand from manufacturers, and recent advances in prices in the country. Latest prices for adult mohair were reported to be around 70 cents in Texas and around 62 cents in Arizona.

Report of Annual Meeting of American Corriedale Association

THE annual meeting of the American Corriedale Association was held at 2 p. m. Saturday, December 26, 1936, in the Agricultural Building of the University of Wyoming, Laramie. Thirty members were represented in person or by proxy. The meeting was called to order by President H. T. Blood, and the call for the meeting was read. The secretary read the proposed changes in the articles of incorporation as published, copies of which were mailed to all members on December 10.

It was regularly moved, seconded and carried that, in accordance with association rules, all members who have not recorded sheep with the association during the past twelve months are hereby dropped from membership.

The proposed changes in the articles of incorporation were taken up section by section and all were duly adopted. The association's attorney was instructed to file these changes with the Secretary of State of Wyoming. Among the changes adopted was one reducing the number of directors in the association to three so that business may be conducted regularly and expediently (under Wyoming statutes it is necessary that a majority of the directors be present in person before business can be conducted legally). Directors elected for the year 1937 were Messrs. H. T. Blood, J. H. King and F. S. Hultz.

The reports of the auditing committee and of the secretary-treasurer were read and accepted. Secretary-treasurer's report showed an income of \$1017.54, and a balance carried over from 1935 or \$151.44, total \$1168.98. The expenses were as follows: advertising \$321.64; premiums \$133.75; office equipment and supplies \$58.25; stamps and sundries \$14.80; office rent, heat, phone, light \$108.00; secretary's salary \$275.00; bank balance \$257.54; total \$1168.98.

Following the adjournment of the annual meeting, a meeting of the Board

Opening Prices at London Wool Sales

THE second series of London wool sales for 1937 opened March 2 with prices for most descriptions unchanged or below those prevailing at the close of the first series on January 27, according to a cable to the Bureau of Agricultural Economics from its London office. By March 5, however, the general tone of the market had improved considerably.

Greasy Merinos on March 5 were selling at from 2½ to 5 per cent above the closing rates of the first series and scoured Merinos were at par. Greasy fine crossbreds were reported as "fully par" and greasy medium and low crossbreds as "par." Scoured crossbreds of all types ranged from par to 5 per cent higher. All slipes were reported as selling at "fully par."

Yorkshire dealers have been doing most of the buying thus far during the series. Buyers from the Continent have been taking near all of the offerings of Punto Arenas wools and moderate quantities of Merinos and faulty crossbreds. Demand from the United States has remained very quiet.

Prices on March 5 compared with January 27 closing rates (the latter in parentheses) converted to cents per pound at exchange prevailing on those dates and expressed in terms of official United States standards for wool, scoured basis, were as follows: Ordinary 70's at 65.14 (62.27); 64's at 63.10 (60.23); 60's at 58.01 (56.15); 58's at 52.93 (53.08); 56's at 47.84 (49.00) and 50's at 40.71 (40.83). Carding 48's stood at 39.69 (39.81); 46's at 38.68 (38.79); 44's at 38.68 (38.79) 40's at 36.64 (37.77) and 36's at 36.64 (37.77).

of Directors was held. The following officers were elected: H. T. Blood, Denver, Colorado, president; Leslie L. Crane, Santa Rosa, California, vice president; Fredric S. Hultz, Laramie, Wyoming, secretary-treasurer. In accordance with newly adopted rule 16, which states, "Where Corriedale breed-

(Continued on page 38)

With the Women's Auxiliaries

Washington

Yakima

Members of the Yakima Auxiliary of the Washington Wool Growers Association met in January at the home of Mrs. Emile Robert.

Mrs. Agor read a recently published article by Mrs. Herman Oliver of John Day, Oregon, on the importance of government grading of meats. Mrs. Archie Prior read an article on California's law for testing wool presented to the consumer. The law gives an inspector the right to open comforters labeled as wool-filled and to grade them properly.

Mrs. Harry Roberts reported on the annual business meeting of the Golden-dale Chapter of the state auxiliary which she attended January 15. At the brief business session Mrs. Prior announced the paid membership of the chapter as 28.

Mrs. Jack Goodwin and Mrs. William Watt assisted Mrs. Robert in serving refreshments.

Mrs. Archie Prior, Secretary

Utah

Salt Lake Chapter

The fifth regular monthly meeting of the Salt Lake Auxiliary to the Utah Wool Growers Association was held in the Governor's Room, Chamber of Commerce Building, Wednesday, January 20, 1937, with 47 members and guests present.

This meeting was held in conjunction with the convention luncheon at which visiting members of other chapters of the auxiliary were guests, the Salt Lake Chapter being the hostess of the day. The ladies were seated around a beautifully decorated table and each given a favor in the form of a corsage of violets and pink sweet peas. During the course of the tasty luncheon served by the Chamber of Commerce, Mrs. Julian Neff, president, presided over the program.

The Secretary read the minutes of the last two meetings previous, which minutes were approved with some corrections.

Mrs. Parley Dansie made a motion that Mrs. E. E. Corfman be given a vote of thanks for furnishing the music for the state convention, which she did with the cooperation of the Salt Lake Music Council. This motion was seconded and unanimously carried.

Mrs. Neff read a gracious letter written to the ladies of the auxiliary by Mrs. Ovanda Kearns.

Mrs. Neff asked for the attitude of the members toward the request of the Federation of Women's Clubs that the Salt Lake Auxiliary join their organization. Mrs. Eliason made the motion that the auxiliary abide by the decision of the board at their next meeting regarding this matter, which motion was seconded and carried.

Mrs. Jas. A. Hooper, chairman of the entertainment committee, who had the meeting in charge, thanked Mrs. Rawls of the Chamber of Commerce, for the luncheon given by them, and presented her with one of the lovely potted flower centerpieces which decorated the luncheon table. She also presented centerpieces to Mrs. J. R. Eliason, national president, and Mrs. Sylvester Broadbent, state president.

Mrs. Rawls accepted the flowers with a few remarks of thanks, as did Mrs. Eliason and Mrs. Broadbent. Mrs. Eliason also asked that a letter of thanks be written the Chamber of Commerce, for their courtesy in giving the luncheon, and thanked the National Finance Committee for their efforts in preparing the quilt to be raffled off at the national convention.

The meeting was adjourned at this point in order that the ladies might attend the talk given by a representative of the Botany Woolen Mills.

Mrs. Emory C. Smith, Secretary

Oregon

Grant County Chapter

The Grant County Chapter of the Wool Growers Auxiliary met at the Community Church in Mt. Vernon, Saturday, January 30. The proceeds of the plate lunch served by the ladies of the Mt. Vernon unit were donated to the county chapter. There were present 28 members and 9 visitors. The table was nicely decorated with a toy train loaded with wool and woolly sheep for place cards.

Following the opening of the business meeting and the reading of the report of the activities of the chapter for the past year, Mrs. R. T. McHaley, county president, gave a very interesting account of the state convention held at Ontario, January 12-13. Among other actions taken at the state meeting it was resolved that all women should study textiles in order to distinguish between wool and the many substitutes on the market. The various social activities of the convention as well as the business sessions were ably reviewed by Mrs. McHaley. She stated that the prizes for the best display of five woolen articles by the several auxiliary chapters in the state were awarded as follows: Malheur County, first; Morrow County, second, and Grant County, third. The award for increase in membership was held up awaiting further information as the reports indicated a tie. A letter from R. E. Brooke, county agent, asking that the Women's Auxiliary be represented at a meeting of the Wildlife Conference was read, and the president appointed the following committee to act in that capacity: Mrs. Carl Swing, chairman, Mrs. I. B. Hazeltine and Mrs. H. D. Harryman.

Mrs. McHaley appointed Mrs. Frank Oliver general chairman of a committee to organize knitting clubs through the county. Anyone interested can obtain information about joining these

clubs by communicating with Mrs. Oliver or Mrs. McHaley.

At the close of the business session a program was rendered.

Mrs. Herman Oliver,
Cor. Secretary

Baker Chapter No. 2

The January meeting of this chapter of the Oregon Auxiliary was held at the home of Mrs. S. S. Head, with Mrs. Fred Widman, as acting president, presiding. Eleven of the thirty members of the chapter and three visitors were present. Reports of the state convention were given, following which games were enjoyed.

Mrs. A. S. Boyd was the hostess for the February meeting of the chapter, with Mrs. Louis Osborn assisting. Seventeen members were present, and President Mrs. F. A. Phillips presided. Officers for the coming year were elected as follows: President, Mrs. S. S. Head; vice president, Mrs. A. S. Boyd; secretary-treasurer, Mrs. Louis Osborn; publicity reporter, Mrs. John King.

Five dollars was donated to the Flood Relief Fund and the making of quilts for the Red Cross was proposed as a future activity of the organization.

Mrs. Louis Osborn, Secretary

Umatilla West End Chapter No. 14

This chapter held its February meeting at the home of Mrs. Troy Coleman at Echo on the fifth, with 24 out of the 36 regular members in attendance. It was voted to give \$5 to the Red Cross Relief Fund.

Mrs. Gaylord Madison, President

Morrow County

The Morrow County Auxiliary met on February 5 at the Lucas Place, with Mrs. Frank E. Parker presiding. Twenty-six regular members and one visitor were present.

Five dollars was voted to the Flood Relief Fund and plans were discussed for a fashion show in the near future. Reports from the state and national conventions were given and the new national president, Mrs. W. P. Mahoney, a charter member of this organization, was greeted.

Sara E. McNamer

"Virgin" Means "Pure"— "Undeiled"—"Fresh" —"New"

THE National Wool Grower of January carried a very interesting and informative article by Dr. J. F. Wilson of the University of California, entitled "Virgin Wool 'Bats' and Wool-Filled Comforters." It points out some instances in which virgin wool is inferior to reworked wool.

The facts stated are freely admitted, as it is common knowledge that wool fibers, both new and reworked, are sometimes short and sometimes long and also that both are sometimes weak and sometimes strong. Friends of wool will agree that there should be national legislation requiring compulsory labeling to show length and fineness of wool fibers in wool fabrics and also the tensile strength of the cloth. Most friends of wool would like legal labeling to show the content of virgin wool in fabrics.

Dr. Wilson's article states: "We hope to do away with the term 'virgin wool' which is absolutely meaningless as far as the quality of any wool article is concerned because virginity in a wool fiber may not even be a virtue." This statement, we believe, is open to argument.

When Abraham went west out of Ur with his family and his sheep, it was only necessary to use the word "wool" in buying wool clothing because cast-off clothing was worn until worn out and the wool fiber contained was used no more. In Ur the customer could ask for wool fabrics and be sure that the wool content would be from sheep and not recovered fiber from woolen rags. This was the situation for 3000 years before Abraham and for 4000 years after, but in the early years of the 19th century when fine wool was very high in price because of the Spanish monopoly, a Yorkshireman discovered that wool fibers could be recovered from rags and these fibers could be spun and woven and the resulting fabric sold as "all wool." After this discovery it became necessary to have

some term by which one could ask for new wool if he did not want shoddy.

For pure, undeiled, fresh, new wool the term "virgin wool" was used and it has become generally accepted, except by those who prefer a term broad enough to cover both new and recovered wool. For precise speech some such term is necessary. It is not a question of virtue as between virgin wool and shoddy but is a question of speaking precisely, conveying the meaning wished, being understood exactly and having protection from imposition.

Kleber Hadsell

California Lamb Situation

IN the two main interior valleys of California, range and pasture feeds have been short, with new feed late in starting in the Sacramento Valley. Early lambs have made a poor start and are behind their seasonal average weights, but a week of above normal temperatures and ample sunshine has brought an improvement, March 6.

Numerous buyers are in the field, apparently looking the crop over, but trading has been nominal, mostly due to the uncertainty of forage prospects. Bay districts and southern slaughterers have a scant supply of fed lambs until the close of March, and are anxiously interested in the forthcoming spring crop.

A few contracts for future delivery f.o.b. loading points have been drawn in the San Joaquin Valley. In the northern section, reports indicate a few lambs have been contracted for March 20 delivery at \$10.50 per hundred, with the balance at a later delivery at \$10 per hundred. A few small lots were reported to have been contracted up to \$11 per hundred. These early purchases are for local use, and will likely be light in average weight.

In the Sacramento Valley range forage has been very slow to start, many large outfits feeding hay or concentrates. From all indications, some growers will be feeding hay for two or three weeks hence. In this section, it does not appear that many lambs will reach slaughter channels before the middle of April.—Bureau of Agricultural Economics.

Big Gates on Little Hinges

By Peter Spraynozzle

Where big gates swing on little hinges
Where the snow is melting down;
As we look across the desert
We can see big spots of brown
Where the "good earth" makes a showing—
Guess we'll make it through-some-how
Until Miss Spring comes "round the mountain"
Und the trees shake blossoms down.

Vell, neighbors, this has been a winter in any mans country—a winter that has taken lots of hay und grain to winter through the livestock on the open winter range; sheep und cattlemen have had to depend on the loyalty of cow-hands und sheep-herders; there have been many heavy losses in flock und herds—human life has made the supream sacrifice, but I know of no herds or flocks that were desert-ed by the men in charge.

In all parts of the intermountain range country—even in sun-kissed California—snows have blocked the hiways und blizzards swept over the winter range. Thousands of sheep und cattle are alive today because the men in charge stayed on the job even though the weather man reported 40 und more below.

Many of the men on the job had no capital investment, they owned no part of the herd or flock—there home a camp wagon or a tent. They worked shoulder to shoulder vid the Boss, cut off from there food and water supply, und as the flocks und herds hungred, thirsted und suffered from the cold—so the men on the range suffered to.

Hours of work per day were lost sight of. The loyalty of cow-hands und herders was not a matter of wages, they were in charge of livestock, there job, to keep them alive, to shelter them from the eliments as best they could—not only cows und ewes to be provided for, but calves und lambs that came (blessed events), as the weather man reported 20-30-40 und more below.

Out there on the winter range of your state und mine there were no cheering crowds, no playing bands, no flying flags, to cheer up, keep the morale of the men. They worked alone in a world of white—snow blind und snow bound in a frozen world with cold und hungry sheep und cattle.

Som of the men gave there lives, not for fame or glory, gold or silver dividends, wages or profits; but because they were dependable men und the livestock industry, men who opperate great woolen mills, great meat packing plants, great transportion systems depending upon the livestock industry for freight, great banks with capital invested should not und I dont belive will soon forget the men who wintered through the sheep und cattle in the winter of 1936 und 37.

From the banquet program of the 1937 Idaho wool growers state convention—The Sheep-herder speaks—I quote.

On many a night on the old sheep trail
Beneath my tarp I have told this tale
When the fire was low and the moon not up
My gun by my side und the sheep dog pup
When out on the wine of the desert air
A cayote gave voice from his sage brush lair
He steals like a ghost to the canyon rim
Where he stands alone, steel sinewed und slim
He lifts to the arch of the spangled sky
The blood curdling theme of his wolf pack cry
I tighten my hand on the sheep dogs throat
To stifle the sound of his kinsman's note
When up from the depth of the purple wall
Comes echo und echo, call und call
Till farther und farther—fainter und faint
The night wind returns his yearning complaint
An amber moon rise—I drift into sleep
One hundred—two hundred—I'm counting sheep.

During the winter of 36 und 37—on the winter range of your state und mine—men worn to a frazzle with the cry of a hungry cayote in there ears drifted into that dream-less sleep that comes to men who lay there burdens down. Out there alone? Well, maybe so; but I am sure that like Joe Bush says—that He who provided the loveing arms of a mother to recive him here in helpless infancy will also provide proper reception for him over there.

Und so the men of the livestock industry of the west, to thos who wintered through—und in memory of thos who will come no more—I prepose a toast that was sent to me by Loren B. Sylvester of Monte Vista, Colorado—

Let us live O mighty master
Just such lives as men should know
Tasteing triumph and disaster
Joy; and not to much of woe
Let us run the gamut over
Let us live und love un laugh
Und when we have passed on over
Let this be our epitaph.

Here lie thos who took there chances
In the busy world of men
Batteling luck and circumstances
Faught und fell und faught again
Won sometimes but did no crowing
Lost sometimes but did not wail
Took there beating but keep going
Never let there curage fail—
Keep there curage un-deminished
Never laid down on a friend
Played the game till it vas finished
Lived as men until the end.

(Editor's Note: The above is printed in the form used by Mr. Spraynozzle in his weekly broadcasts from Salt Lake City.)

The Lamb Markets in February

Supply Prospects for the Spring Market

THERE is decided unanimity of opinion as to what the lamb market has in store; fat sheep will slump the moment temperatures rise. By the end of February the visible supply of fed lambs was mainly in Colorado and Nebraska, in steady but controlled process of liquidation. Indiana concealed the largest package east of the Missouri River and it was being steadily reduced. By early April fed lambs will be at the disappearance stage; the market at the gateway to the grass or new crop season.

California ran into hard luck, which decimated its crop of spring lambs by 500,000 head, according to recent reports, and left about two million available with no certainty as to condition at loading time. However, late February ameliorated previously adverse physical conditions, and made possible a supply of decently fat lambs, although the percentage available for shipment east will be substantially reduced compared with recent years. Packers have observers in California, but so far have not opened their mouths with respect to prices.

Texas is an uncertain quantity, both with respect to numbers and condition. A January freeze cut down feed and will curtail what would otherwise have been a burdensome lot of yearling product. Wool had been contracted, necessitating holding until it had been taken off and in any event northern feeders would not have taken any considerable number owing to high corn cost. Estimates on the number of yearlings that would have been dislodged from Texas had early winter physical conditions continued, range from 300,000 to 500,000 head. Had feed been available at reasonable cost, northern commercial feeders would have taken many yearlings, but the corn bill has put feed-lot owners adjacent to the

markets out of business, at least temporarily.

Tennessee and Kentucky have the usual crop but by the time they are ready they will have the market to themselves. In the corn belt what will probably be a record lamb crop will swell supply from July to December; a mere handful will report as springers.

All this suggests possibility of an April and May supply gap. Probably 25 per cent of the California crop will be feeders, few lambs were taken out to shear and no excess supply is possible. Should a bulge develop, few will benefit, either feeders or spring lamb growers.

Taking a long view, the prospect is reasonably propitious. Based on pres-

ent and probable production, a surplus of ovine product, other than temporary, is impossible. Industrial unrest usually runs its course, compromise settlement is inevitable. The 1937 crop outlook is not unfavorable, although west of the Missouri drought is still in evidence. Elsewhere a large acreage will be planted under favorable physical conditions and if Dame Nature happens to be in benign mood, a broad market for feeding lambs will develop next fall. Restrictions on corn acreage have been abandoned for the current year and what the whole country needs in the worst way is feed replenishment, actually essential to the welfare of the entire livestock industry, regardless of species.

J. E. Poole

CHICAGO

EMERGING from the dry fed season, live mutton trade is in fairly robust condition, although the recently eloquent coterie of shortage theorists is discredited.

In a monetary sense, the winter season has not lived up to its advertisement. Lamb slaughter has been continuously heavy and, at intervals, the dressed market has run into squalls. Whenever necessity for resorting to the freezer develops, no further diagnosis of dressed trade exists, an accumulation of some ten million pounds, practically all lambs, since the turn of the year being convincing. Just why that accumulation developed in the face of a rising market may be susceptible of explanation; none is available except that processors to avert a crash in dressed prices resorted to the old-time safety valve, relying on a period of diminished supply, between hay and grass, to work it into distributive channels.

February's price record may be told in a few terse sentences. Rehashing recent history is obviously superfluous.

At Chicago a few loads of specialty Colorado-fed and native lambs realized \$11@11.15 per hundred; the bulk of the crop sold in a range of \$10.25@10.75. A mid-month break set the top down to \$10.50; the bulk to \$10@10.25. Recovery was invariably prompt as supply was in strong hands, enabling feeders to regulate the movement and, to an extent, prices. Packers' objective was, apparently, to buy the bulk of the crop at \$10@10.25, holding the top around \$10.50; if so, they failed as they were able to appraise only swelling receipts that way and swollen symptoms soon subsided. A limited supply of fat yearlings sold at \$8.75@9.50; tops at \$9.50@9.75. Shorn lambs were penalized \$2 per hundred, only a few loads reporting. Scarcity of fat sheep was solely responsible for a gradually advancing ewe market at \$5.50@6.25; top \$6.40. Heavy lambs sold on a par with handy-weights until late in the month when a 25-cent discount was enforced on everything exceeding 100 pounds. A few half-fat lambs went to shearers at \$8.50@9, but

this trade lacked volume as shearers are afraid of the game and packer attitude was discouraging, as their penchant for pulling wool was always in evidence.

An outstanding feature of the February run was superb condition. Colorado lambs never went to the meat rail in more attractive condition; yields elicited no protest from killers, and low dressers, around 43 per cent, sold relatively as high as the upper crust of the crop. This dumfounded prognosticators who were willing to stake their reputations early in the season on a winter lamb supply dressing 43 to 45 per cent, on the plausible theory that high cost feed would send the entire package to the shambles prematurely. Condition of the winter lamb crop was in striking contrast to that of cattle and hogs, both species being dumped to evade the aforesaid feed bill far short of seasonal condition. This is illustrated by narrow price ranges on lambs; wide spreads in other markets. Top cattle sold up to \$14.65 late in February when \$11 was the practical limit on lambs, but the great bulk of steers was appraised at \$9.50 to \$12.50. High-dressing hogs reached \$10.50, but sacrificing light shotes and pigs was responsible for a long string of \$7.50@ 9 sales.

The winter season has not been a period of contentment. Killers have been eloquent respecting "minus" sales in the dressed market; feeders have protested cost of feed and resultant gains. If the February market was unprofitable, those who cashed before the turn of the year must have been hit hard. No doubt exists that if involuntary meat storage had not been resorted to, a lower market would have been inevitable.

Various alibis are advanced in extenuating price eccentricity during February. A seasonal explanation was a "dead" spot in the wool market, prompting killers to "adjust" pelt credits downward. This is a weasel word as it means lower prices and nothing else. A rubber ball market injected the element of luck into the trading operation, those reaching market

on reactions from breaks getting the best betting. Invariably favorable reactions were credited to eastern orders, injecting fickle competition.

At the inception of March the whole market, both sheep and lambs, was on a healthy basis, trade opinion was conservatively bullish, nobody expecting a slump, except temporarily. Packers were anxious to acquire lambs in a \$10.50@10.85 spread and occasional sales at \$11 or better to outsiders suggested improvement in the dressed market, a branch of the trade that has rarely been so eccentric, otherwise storage would not have been resorted to. With the exception of pork loins, lamb is still the highest meat on the wholesale list and whenever a cent or more is tucked on urgent demand promptly fades. Dressed prices jumped and slumped as much as \$1 per hundred almost overnight, heavy carcasses fluctuating most, light and common stock least. Choice lamb carcasses, 38 pounds down, sold mainly at \$16@17 per hundred; good \$15@16; medium \$14 to \$15 and common \$12@14. Veal, always a competitor of lamb, cost \$2.50 to \$3 less, only choice steer carcasses maintaining a parity with lamb. Common steer carcasses sold as low as \$10; common lamb carcasses did not drop below \$12.

In the competition between foods, dressed lamb has fared well. Beef was adversely affected by the wave of strikes that spread from New England to California during the month, pork being involved in the same depressing influence, to which lamb was immune. A demoralized pork market, even with a light hog supply, forced processors to pile up meats in their cellars until the accumulation generated concern. Continued heavy imports of cured hog products, to which lamb is also immune, was against maintenance of domestic prices and although no fresh beef was imported, with the exception of a package from Canada, that commodity derived no benefit from an astounding poundage of South American canned beef, which was promptly absorbed by domestic, restaurant and hotel trade. The volume of meat imports may be

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sensed from the fact that 650,000 pounds of Polish pork entered the U. S. in a single week at mid-February and what is equally astounding is that it went into immediate consumption. A pound of meat, canned, cured, or fresh, domestic or foreign, is so much food and every ounce imported displaces an equal quantity of home-grown food. A foreign supply is logical only when semi-famine develops and no symptom of that condition has been detected.

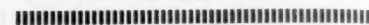
An indisputable fact is that retail meat prices are at levels where sales resistance is felt; consumers are cur-tailing their purchases to meet the emergency and if further appreciation develops will continue that policy. Restaurants do likewise, cutting down portions if not raising prices. A Colo-rado man, dining at a Chicago hotel paid \$1.50 for an indifferent dinner, carrying a single so-called lamb chop, which, in his opinion, was cut from a fat yearling carcass. Chain stores have "pushed" lamb in commendable man-ner, but restaurant waiters are under orders to recommend poultry and fish. Buyers of "relief" food have centered their expenditures on fish and eggs all winter and the sausage maker is sitting up nights devising ways and means to popularize his product, into the compo-sition of which ovine product does not enter. When hog raising was officially reduced, corn belt farmers doubled and even quadrupled poultry production, especially that of turkeys and ducks, resulting in a carryover of 170,000,000 pounds, of which 4,000,000 pounds was ducks, never before specified in the accumulation. Sausage consumption is now about double that of lamb and mutton combined and is steadily grow-ing. The extent to which it competes with lamb must be left to conjecture; poultry is a competitor.

J. E. Poole

Kansas City

FEBRUARY was another \$10 month for lambs. Most of January good to choice lambs sold at \$10 or better, and February made a slightly higher average and closed 10 to 15 cents above January. The high point of the

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month came on February 8 at \$10.75, and on the close the market was firm with bulk of lambs selling at \$10.50 though nothing very choice was offered. With the exception of three days when \$9.75 and \$10.15 were tops, the best lambs brought \$10.25 or better and \$10.50 was the top on more days than any other price. However, the market displayed quick daily price changes, mostly 15 to 25-cent fluctuations. The changes on most days, up and down, were larger than the net changes for the month. The logical explanation for this was that killers did not want the market to reach the \$11 level. Meat demand the past six weeks has not been very broad. Strikes, floods, and labor troubles were unfavorable factors in the general situation. Lent, as usual, had a tendency to keep down meat demand in some quarters. The labor situation remains unsettled. Some strikers have gone back to work but other groups have begun agitation for more pay. Early March will find killers anticipating the close of the Lenten season by increased purchases. Generally speaking March is starting with a favorable trade outlook in many lines, but the recent increase in living costs has begun to make the average housewife a little more careful on her meat expenditures. However, the lamb market is still drawing good support from the wool and pelt angles and the meat is relatively no higher, spots not as high, as beef or pork.

February started with best lambs at \$9.75, jumped to \$10.15 the next day and at the end of the first week the top was up 75 cents from the opening but only slightly above the January close of \$10.40. Since December the general market has shown a substantial advance. December closed with top at \$8.85; January \$10.40; February \$10.50. March is starting with fewer lambs on feed than at this time last year. In March last year top went to \$11, or 25 cents above the February high point, so it is reasonable to anticipate that a firm market will continue next month.

Winter fed lambs show more than normal weights. Ninety to one hundred pounds has been the prevailing range

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for the past sixty days and it looks as if that range will hold until feed lots are cleared. As yet no material discount has been made for weight, but later in the season heavy lambs may be discriminated against. Practically no fed lambs have been shorn before marketing this winter. Early in January a few bunches showed up but they were discounted too sharply for shearing to continue. Spring trade may favor light-weight lambs but as there is not a very large supply available for the next five weeks the buying side might have to take weight to make up tonnage.

The few bunches of new crop native lambs offered in the past two weeks brought \$11. The supply of pre-Easter offerings, both native and Arizonas, will be below normal due to the fact that feed in this section is very scarce and high in price and lambs have not been crowded. Arizona reports a backward range season in the early lamb sections.

Fat sheep are 50 cents to \$1.00 higher than in January. Fat yearlings sold up to \$9.50, with medium kinds at \$8 to \$9. Fat ewes topped at \$6.75, and bulk of good kinds moved at \$5.75 to \$6.25. The supply of fat ewes was slightly larger than in the same month last year, but demand was considerably broader. Wool was a material factor in the advance prices for mature mutton classes.

Trade in feeding lambs was limited because of the light supply available. Finishers took most of the sort-outs from fed offerings at \$9 to \$9.50 and some thin lambs at \$8 to \$8.50. Traders picked around on cull classes at \$6 to \$7.

On the February close the general sheep market appears in a firm position. Supplies of fed lambs are not so large as on March 1 in the past three years and early lamb states will not be able to market any material number of new crop lambs before the middle of April. The supply situation will permit orderly marketing and the meat side, with fairly good business conditions prevailing, should not find it hard to find an outlet.

February receipts were 121,284 compared with 104,239 in the same month last year. Colorado, Utah, Kansas and

Texas supplied the bulk. New Mexico, Oklahoma and Missouri contributed some but not in normal numbers. Arrivals for the two months were 285,304, as compared with 211,338 in the same period last year. The entire increase came from other than this immediate trade territory. C. M. Pipkin

Omaha

PRICES on slaughter classes of sheep and lambs on the Omaha market during the month of February continued the upward swing that began about the middle of last December.

Fat lamb values at the finish of the period were generally 35@50 cents above the close of January. Closing top to shippers stood at \$10.85 while local packing interests stopped at \$10.65. This compared favorably with a year ago when the top to shippers was \$9.35 and \$9.25 to local interests.

The popular price on fat lambs during the month was \$10.50 and at no time did prices vary more than a half dollar from that figure. Once during the period, prices fell 50 cents, and another time top advanced 15@25 cents. Twice, top values remained unchanged for three successive days.

Feeders in Colorado, Wyoming, and western Nebraska sent in the bulk of the lambs arriving here during the month. A moderate number came from nearby commercial feeders. Natives were scarce.

Receipts were the lightest for a February here since 1903, amounting to 115,125 head as against 108,067 last month and 136,106 for February of last year.

The general quality of the daily runs was usually reported as fair to good. Occasional shipments of really choice offerings also arrived. The average weight of the lambs sold here during February was approximately 89 pounds. Shipments of 95 to 100-pound averages were not infrequent and generally sold right along with the lighter kinds.

Feeder prices varied only slightly during the month, closing top of \$9.50 being identical with that at the end of January. Top on one day climbed to

\$9.80. Local feeders were the best buyers, taking out practically all of the unfinished stock arriving. Available supplies quite often fell below the potential demand.

Fat ewes made the sharpest advance of any division, gaining 50@75 cents to finish with a top of \$6.25, the best price here since early last May. At all times, too, prices were quite satisfactory to sellers. Bulk of the supplies came from western feed lots. Most of the offerings appeared in a well-finished condition. Demand from breeding interests was practically non-existent.

Lester H. Hartwig

Denver

DESPITE fairly liberal receipts fed lambs advanced 35 to 50 cents in February as compared to late January. Ewes showed an advance for the month of 15 to 25 cents. Since March 1 fat lambs have shown another advance of around 75 to 85 cents.

Receipts at Denver for February totaled 188,969 head compared to 295,614 head received in February, 1936.

Choice fed Colorado lambs were selling up to \$10.50 FPR at the opening of the month, with prices ranging from this down to \$10 for the fair lambs. Some fluctuations occurred during the month, with choice lambs up to \$10.75 freight paid, and at times the best sold at \$10.35. At the close of the month \$10.75 was taking best lambs, and most of the good ones were selling from \$10.50 to \$10.75. Fair grades were selling from \$9.75 to \$10.25. Since March 1 choice fed lambs have sold readily at \$11.25 to \$11.35 freight paid.

Feeder lambs were scarce during the month with carlot sales at \$9 to \$9.25 and fleshy feeders up to \$9.75. Common feeders sold down from \$8.

Choice ewes sold at the close of the month at \$5.75 with fair ewes at \$4.50 to \$5.50 and common ewes down to \$4 and below.

There is every indication that the fat lamb market will remain on a fairly high level during the remainder of the fed lamb marketing season. The supply of lambs in feed lots is not heavy, while demand is good and is expected to remain so. The wool market is in good position with a healthy demand and limited supplies, which indicates an active inquiry for all fat lambs remaining to come to market during the next couple of months.

The demand for fat lambs at Denver was strong during the entire month of February. Packers purchased fat lambs here for shipment to a wide area. During one week of the month a total of 72 cars sold at Denver for shipment to slaughter points in Massachusetts, New York, New Jersey, Minnesota, Missouri and Iowa.

W. N. Fulton

St. Joseph

RECEIPTS for February were approximately 87,200 compared with 78,442 in January and 131,647 in February last year. Included in the month's total were about 36,000 from Colorado feed lots, around 15,650 from the Scottsbluff district of Nebraska, 5,500 from Texas and New Mexico, and 9,000 from Wyoming, Idaho and Utah.

The lamb market during the month was up and down, the top ranging from \$10 to \$10.85. Compared with a month ago values are fully 25 cents higher, with the top on the extreme close at \$10.85, and bulk of sales \$10.50@10.65, and a few less desirable kinds down to \$10.25. Native lambs sold up to \$10.50 on the close. Fat ewes were in good demand throughout the month and are fully 50 cents higher, the closing top being \$6.25 on choice handy-weight Nebraskas. Other aged sheep show little change for the month, choice yearlings being quotable up to \$9.50 or higher, two-year-olds \$8.50@8.75, and old wethers \$6.50@6.75.

H. H. Madden

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First Intermountain Junior Fat Stock Show

THE premium list for the First Annual Intermountain Junior Fat Stock Show has recently been issued. The show, which is sponsored by the Salt Lake City Chamber of Commerce, is to be held at the stock yards at North Salt Lake, June 8-10, 1937.

The show is open only to Future Farmers of America and 4-H Club members of Utah, Idaho, Wyoming, Montana, Nevada, and the western slope of Colorado, and entries must be received by S. L. Moss, secretary of the show, North Salt Lake, not later than Saturday, May 15.

In both sections of the show, cash prizes are offered for the best fat lamb and best pen of three fat lambs of the Hampshire, Suffolk, Southdown, and Rambouillet breeds and grade or crossbred stock.

Mr. E. J. Maynard, formerly of the Utah State Agricultural College and now connected with the Utah-Idaho Sugar Company, has been named as show manager. Prof. J. I. Thompson, livestock specialist of the California Polytechnic Institute at San Luis Obispo, California, will be the judge and W. H. Adams of Salt Lake City the auctioneer.

Report of Annual Meeting of American Corriedale Association

(Continued from page 28)

ers have formed themselves into state or district associations, and have elected officers for such associations, their presidents shall be considered by the Board of Directors of American Corriedale Association as the official advisers to the board from such states or districts. Where state or district associations do not exist, the board shall appoint suitable advisers for general sections of the United States," the following advisers for 1937 were named: L. L. Crane, Santa Rosa, California; B. F. Creech, Morgantown, West Virginia; J. M. Jones, College Station, Texas; R. W. Phillips, McMinnville, Oregon; John Tolliver, Fort Collins,

Colorado; Stanley Smith, Dubois, Idaho; H. D. Mitchell, Cimarron, New Mexico; Howard Miller, Kenesaw, Nebraska; Carl A. Henkel, Mason City, Iowa; M. H. Karker, Barrington, Illinois; A. C. Gould, Estelline, South Dakota.

The advertising schedule for the association for 1937 was discussed at length. By motion duly carried, the following schedule was adopted: California Wool Growers, \$35; Sheep Breeder, 2 inches per month, \$72; National Wool Grower, 2 inches per month, \$48; Southwestern Sheep and Goat Raiser, 2 inches per month, \$36.

It was voted to subsidize the International Live Stock Exposition, the Pacific International and the National Western at Denver to the extent of \$50 each for special premiums for Corriedales. All sheep competing for these specials must be owned by the exhibitor, who shall be a member of the American Association in good standing and whose flock is entirely recorded in the American Corriedale Association.

The secretary was authorized to register the sheep of any delinquent member of the association upon application and a fee of \$25, plus the regular registry fees. The \$25 fee may become a part of the registration cost upon approval of the Board of Directors. Rule 7 as printed in the rules of the association was amended so that it now reads, "Members shall present their lambs for record within the year in which they are dropped, with certificate showing the sire and dam of each lamb. If labeled and presented according to the rule, the secretary may accept them for record and publication upon payment of fifty cents (50 cents) each. If not presented within this time they shall pay a double registration fee, provided, however, that this double fee may be waived at the discretion of the Board."

The secretary-treasurer was authorized to print a report of the annual meeting for distribution to the members.

The meeting adjourned at 5:30 p. m. Laramie, Wyoming

Fredric S. Hultz,
Secretary-Treasurer

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To Handle Flock of 500 Ewes on Farm at King Ferry, Cayuga County, New York,—half way between Auburn and Ithaca.

Range-trained man, married, and under 50, preferred. House and part of living furnished.

Farm in populous district, two miles from village with centralized school of twelve grades; bus service for school children.

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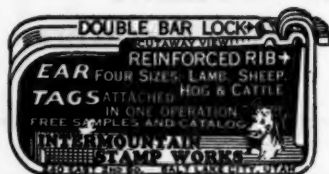
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Rooms without bath.....\$2.00 per day
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**Around the Range
Country**

(Continued from page 11)

weather which melted snow appreciably. Light to moderate precipitation occurred, more especially over the northern portion. Much of the state's snow cover disappeared, the western and southern portions being generally bare; and only a thin layer covers the northern portion, where some sunny areas are bare. Livestock feeding has been heavy at times, but feed has been ample and animals are mostly in fair to good shape. No unusual losses have occurred.

Baker

Weather conditions during January were very hard, but have softened up the last two weeks. Some sheepmen seem to think feed conditions are fair (February 12), but I think they are under normal; in fact, I would say that general conditions as to loss and feed are 25 per cent worse than in the previous two years. It has been necessary to do much more feeding than is usual for this time of year. Hay is \$7 a ton in the stack.

Fully as many ewes are bred to lamb this spring as in the previous season and about 15 per cent more ewe lambs were kept last fall for replacements.

M. H. Osborne

UTAH

Two or three cold snaps sent temperatures temporarily below zero, but most of the month was normal or mild in temperature, favoring livestock generally. Gradually the snow left the southern parts of the state, but snow remains over most of the northern portion. Moderate to full feeding has been necessary and livestock have held up well, excepting for some few shrinkage reports and scattered losses among sheep on the range. Feed is ample in most places, though supplies are getting low locally. Precipitation was frequent, but mostly light, excepting over the northwestern portion where it was normal or slightly above.

Fairview

It is extremely cold (February 26) but the snow condition is not bad and

the feeding situation is good, with about the usual number of sheep getting supplemental feed. From \$6 to \$7 is the price range on alfalfa hay in the stack.

About the same number of ewes were bred to lamb this spring as a year ago, but I believe winter losses have been somewhat heavier than in 1936.

Money can be borrowed at 7 per cent from local banks, but the interest rate is less at the livestock loan companies in Salt Lake.

Supplies are much higher than they were a year ago.

Peter Sundwall

COLORADO

Temperature conditions were largely favorable, without much severely cold weather. Light to moderate precipitation occurred, being heaviest over the western portion, and quite inadequate over the eastern portion. The lower range country west of the Divide carried snow through the month, growing thinner toward the month's end. Heavy feeding for many weeks in that region has depleted feed supplies materially. The eastern portion has been largely bare, especially the extreme east and southeast where dust has continued to fill the air to the detriment of all interests. Livestock have done fairly well nearly everywhere.

Collbran

The ground is still snow crusted and most of the sheep are in feed lots (February 26). Range conditions are better than they were a year ago, but not up to the standard of some years back. A larger number of range sheep have had to be fed this winter than is usual; hay is \$8 and \$9 a ton in the stack.

I believe a few more ewes were bred in this district than in the previous season; winter losses are about the same as last year.

We are paying more for supplies than last winter. Money is costing us 8 per cent, and I believe the banks are loaning more money to sheepmen.

A. J. McKee

NEW MEXICO

Abnormally dry weather prevailed, with very little rain or snow in eastern



Champion Rambouillet Ram at the Fort Worth Centennial, Dallas Centennial, American Royal, Chicago International (1936) and Denver Stock Show (1937).

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For history of the breed, list of members, rules, pedigree blanks, etc., address the Secretary.

and southern portions, and not enough over the northwestern portion. Mild or normal temperatures prevailed, with only a few short periods of temperatures below normal. Range conditions are rather serious over the eastern portion, where bad dust storms have prevailed. Where moisture is available, vegetation is somewhat ahead of normal development. Livestock are only fair, and heavy feeding has been necessary.

Vaughn

Weather and feed conditions (February 18) are normal, just about as they have been in the last two years. Not so many sheep are being fed; alfalfa hay is \$15 to \$16 a ton.

The ewe bands are about the same size as last year and the usual number of ewe lambs were held over last fall for breeding purposes.

There are no private hunters or government men at work in this section and coyotes are increasing quite noticeably.

Eugenio Perez

Tinnie

Weather and feed conditions are o. k. (February 6), about the same as in the previous two or three years. I have not done any feeding yet. Alfalfa hay is \$16 a ton in the stack.

Sheepmen kept about the same number of ewe lambs last fall for their flocks and so far as I know the usual number of ewes were bred to lamb this spring.

Coyotes are more numerous.

Wool growers are paying 5 per cent for borrowed money; bankers seem more willing to loan to sheepmen than formerly.

L. Pacheco

ARIZONA

Occasional rains occurred over the lower portions with snow at higher elevations, giving a fairly good supply of ground moisture in most sections, while the northwestern portion was generally under snow. Temperatures have been mostly mild. Farming and seeding are progressing in the southwest. Livestock have generally been in satisfactory condition, except for some sheep losses due to deep snow over the

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Helen Tyler Belote, Secretary

Frank Brown, President Carlton, Oregon

country north of the Grand Canyon, which were beyond the reach of traffic with feed supplies.

Somerton

Feed on the range is making slow growth (February 26) on account of the continued cold weather. More sheep have had to be fed this year than is usual, and hay is costing from \$15 to \$18 a ton. Winter losses have been average.

We are paying about 20 per cent more for supplies than in 1936; wages have also advanced.

There does not seem to be any tendency on the part of local bankers to increase their loans to sheepmen. Wool growers are paying 5 per cent interest on borrowed money.

R. Koonegay

WESTERN TEXAS

Several cold periods occurred, with temperatures well below normal; but much of the month was quite mild and pleasant. There were, however, no important storms, and the only rain was a very few small amounts in the last week, being quite inadequate for immediate needs. Dusty atmosphere prevailed much of the time, due to the extreme dryness and to the prevailing winds. Livestock are in only fair to good condition as a rule, as forage has been below normal.

Mt. Sharp

Many sheep and goats have died here since last fall on account of too much rain. Now (February 1) we are having a lot of cold weather and having to do more feeding than is customary.

More ewe lambs were kept over by sheepmen in this section last fall than in the previous year. I think the number of ewes bred to lamb this season is about the same as a year ago.

Some 1937 wool, both fine and cross-bred, was contracted during January at 34 cents a pound.

August Rakowitz

Brady

The weather is mild (February 27) with not much moisture; range is good. Generally, conditions during the month were better than in 1936. A smaller

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Horlacher & Hammond's Sheep.....	\$2.00
Hultz & Hill's Range Sheep and Wool.....	3.00
Sampson's Range and Pasture Management.....	4.00
Sampson's Livestock Husbandry on Range and Pasture.....	4.50
Sampson's Native American Forage Plants.....	5.00
Morrison's Feeds and Feeding.....	5.00
Gilfillan's Sheep.....	2.50

For Sale By

National Wool Growers Assn.
509 McCornick Building
Salt Lake City, Utah

number of sheep are getting supplemental feed. We do not raise alfalfa here, but use quite a bit of grain sorghum.

I believe there has been an increase in the size of the ewe flocks of this section since last year, with practically no winter loss registered against them.

The rate of interest which sheepmen are paying here ranges from 4 to 8 per cent; it is a little easier to get money from the regular banks now than it has been.

Mrs. J. Ervin Renfro

Fewer Lambs Reported for Late Winter Market

LAMB prices probably will advance somewhat during the next three months because of reduced supplies and improved demand for dressed lambs, according to the summary of the sheep and lamb situation issued by the Bureau of Agricultural Economics on February 20.

The advance in lamb prices in late December and early January was maintained fairly well through early February. The inspected slaughter of sheep and lambs in January was the largest on record for that month.

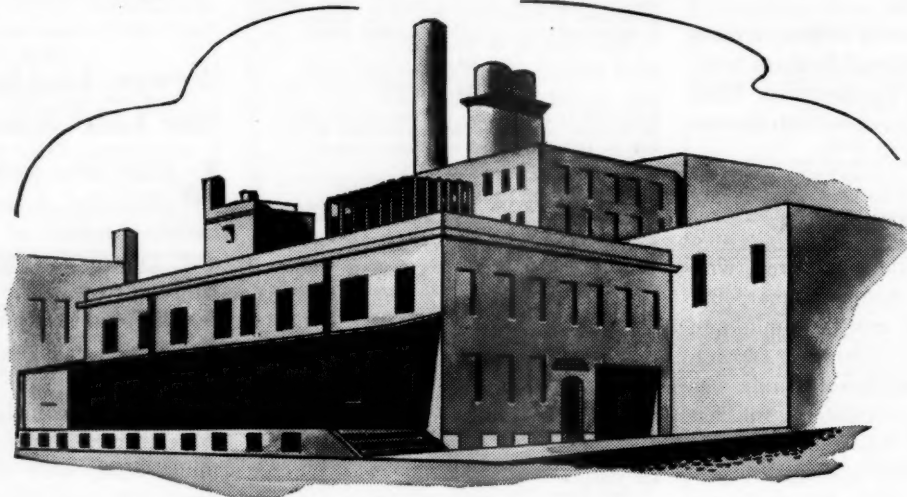
The number of sheep and lambs on feed January 1, 1937, was slightly smaller than a year earlier. In view of this fact and the large supply marketed in January, the Bureau believes the number of sheep and lambs slaughtered will decrease seasonally from now on until about the first of May and will be smaller than a year ago.

Marketings of new crop lambs from California probably will be later than usual this year because of unfavorable weather and feeding conditions. It is probable, however, that there will be a large market movement of grass-fat yearlings from Texas during April and May.

Although the number of sheep and lambs on feed at the beginning of the year was slightly under that of a year ago, the number of stock sheep was larger. This was the result of the much larger number of stock sheep in Texas.

Armour...

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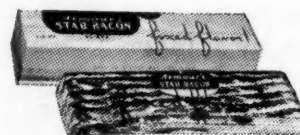
The Branch House System

○ Armour and Company maintains more than 300 Branch Houses throughout the country. They are located in the areas where the greatest amount of meat is sold. They represent a definite Armour service to you, because they resell your products to the broadest possible market. Each branch house is equipped to efficiently stock and sell all types of Armour items. They are also the headquarters of Armour's sales organization. To them the country's meat dealers come to select all the items for America's dinner tables.



The branch house system provides a national market for the meat and dairy products of your farms. This service is one of many which make Armour and Company an important ally of the producer.

A. K. Casper
President



Star Bacon . . . one of the high quality forms in which Armour sells your livestock to the consumer.

ARMOUR AND COMPANY